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CHECKLIST

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A first checklist of macrofungi for South Africa

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Abstract

Macrofungi are considered as organisms that form large fruiting bodies above or below the ground that are visible without the aid of a microscope. These fungi include most basidiomycetes and a small number of ascomycetes. Macrofungi have different ecological roles and uses, where some are edible, medicinal, poisonous, decomposers, saprotrophs, predators and pathogens, and they are often used for innovative biotechnological, medicinal and ecological applications. However, comprehensive checklists, and compilations on the diversity and distribution of mushrooms are lacking for South Africa, which makes regulation, conservation and inclusion in national biodiversity initiatives difficult. In this review, we compiled a checklist of macrofungi for the first time (excluding lichens). Data were compiled based on available literature in journals, books and fungorium records from the National Collection of Fungi. Even if the list is not complete due to numerous unreported species present in South Africa, it still represents an overview of the current knowledge of the macromycetes of South Africa. The list of names enables the assessment of gaps in collections and knowledge on the fungal biodiversity of South Africa, and downstream applications such as defining residency status of species. It provides a foundation for new names to be added in future towards developing a list that will be as complete as possible, and that can be used by a wide audience including scientists, authorities and the public.

Keywords

biodiversity, conservation, macrofungi, Myxomycetes, slimemolds, South Africa, species lists

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Introduction

Macrofungi are fungi that form large fructifications visible without the aid of the microscope and include representatives from the *Basidiomycota* and *Ascomycota* (Roda 2010; Servi et al. 2010). Common names used to refer to these fungi include mushrooms, toadstools, cup fungi, gilled fungi, jelly fungi, coral fungi, stink fungi, bracket fungi, polypores, puffballs, earth starts, truffles, and birds nest fungi (Egbe et al. 2013) and illustrates the visibility of these fungi to the public. Ecologically, macrofungi can be grouped as saprobes, parasites and symbiotic species (for instance mycorrhiza). Most terrestrial macrofungi are saprobes or mycorrhizal symbionts, but some are pathogens of plants or fungi, while those fruiting on woody substrates are usually either saprobes or plant pathogens (Mueller et al. 2007; Maria and Tzenka 2014).

Many macrofungi are edible and rich sources of carbohydrates, proteins, vitamins, and minerals for humans (Ananbeh 2003; Gençcelep et al. 2009). They can be naturally harvested or cultivated commercially. For rural communities they serve as a source of protein and income, especially for women. Macrofungi have great bioexploitation potential in medicine or industry such as in the production of penicillin, lovastatin, and other globally significant medicines, and they remain an untapped resource with enormous industrial potential (Hyde et al. 2019). Mushrooms and other types of macrofungi can grow on decayed organic matters rich in lignin, cellulose, and other complicated carbohydrates, breaking them down for other uses or for bioremediation purposes (Kulshrestha et al. 2014). Modern pharmacological research confirms that large parts of traditional knowledge regarding the medicinal effects of macrofungi are due to proven antifungal, antibacterial, antioxidant, antiviral or other medicinal properties, besides being used as functional foods (Wani et al. 2010). For instance, some of the best known substances present in fungi showing pharmacological properties (especially anticancer and immunological) are polysaccharides (Wasser 2002; Mordali et al. 2007; Zhang et al. 2007; Hyde et al. 2019). Polysaccharides or polysaccharide-protein complexes present in fungi have gained the attention of researchers because it is believed that they can inhibit tumor growth and boost the immune system of the organism. They can enhance host defensive potential or represent biological response modifiers (Leung et al. 2006; Mordali et al. 2007). However, regulation of fungal bio-exploration and research in South Africa is hampered by the absence of biodiversity knowledge.

The fruiting bodies of slime molds or myxomycetes are occasionally observed together with those of macrofungi. The first species was described in 1654 by naturalist Thomas Panckow, who thought it was a species of fungi because of its resemblance to puffballs (Martin and Alexopoulos 1969). Slime molds have two major stages in their lifecycles: a mobile trophic (feeding) and a static fruiting body (reproductive) stage. Modern classifications place them in the Mycetozoan group of Amoebozoa (Baudalf 2008; Fiore-Donno et al. 2010). As bacterivores, slime molds are major components of decomposition and nutrient cycles where they enhance release of nutrients tied up in the microbial biomass (Stephenson and Feest 2015). It is estimated that myxomycete

amoebas alone represent more than 50% of the total amoebae for some agricultural soils (Feest and Campbell 1986). Recent studies suggest that more attention should be placed on the use of slime molds as indicators of soil quality.

A small percentage of the 2.2 to 3.8 million species of fungi estimated in the world are currently described and these are mostly in temperate regions (Hawksworth and Lücking 2017). The tropical regions with the highest fungal diversity have not been fully explored (Hawksworth 2001). The reasons for this disparity, even in First World countries, are taxonomic obstacles that are worsened by a paucity of trained mycologists and especially systematists. The low number of published, rigorous, long-term studies on fungal biodiversity also prevents conclusive answers (Mueller et al. 2007). Not even basic questions, such as those related to the number of macrofungal or slime mold species at a specific location, or whether such diversity is greater in one type of forest than in another, can often be answered.

Despite the importance of macrofungi, information on their diversity is scanty, especially in Africa (Osarenkhoe et al. 2014). Thus, due to the lack of human capacities, national monographs of biodiversity in many African countries rarely encompass fungi. This leads to an unfortunate bias in the complete assessment of biodiversity, the unawareness by the public and decision makers of fungi as important components of ecosystem functioning, and frustration from end users at the lack of information (Gryzenhout et al. 2012). Regulation of fungal natural resources and quarantine is thus severely impeded by the lack of lists and information readily available. Not surprisingly, the fungal biodiversity in southern Africa has been relatively poorly studied to date, and no host has been thoroughly treated (Crous et al. 2006; Gryzenhout et al. 2010, 2012). A working checklist will be greatly beneficial to illustrate strengths and gaps in our fungal biodiversity knowledge in South Africa, and will be useful for regulatory authorities.

To address the lack of basic information for macrofungi in South Africa, the aim of this review was to compile a macrofungal and slime mold names list based on current knowledge and resources. We defined macrofungi as having spore-bearing structures visible to the naked eye (mushrooms, brackets, puffballs, false-truffles, cup fungi, etc.). Since slime molds are also readily observed by the public and perceived as fungi (although they do not reside in the kingdom of Fungi), known slime molds from South Africa were also included. Lichens (structures formed by fungi living in close association with algae and cyanobacteria) were excluded from this review because they represent another ill-studied group without solid supportive capacity, but lichen species should be added in future.

Materials and methods

The species list was compiled from journal and book publications, and national fungorium records. It is not based on field observations. It is hosted on the website www.themycologyblog.com, which is live and can continuously be refined, expanded and

updated. The species list is incorporated by the online resource Cybertruffle's Robigalia (http://www.cybertruffle.org.uk/) and the database of the National Collection of Fungi of South Africa (http://www.arc.agric.za/arc-ppri/Pages/Biosystematics/Mycology%20Unit%20(Fungi)/Mycology-National-Collection-of-Fungi.aspx).

Results

The macrofungal checklist compiled in this review (Table 1) presents the first national list for macrofungi and slime molds in South Africa. It includes macrofungal and slime mold species names from previous field guides, other publications, as well as names obtained from the National Collection of Fungi's PREM fungorium (based on 3597 records), hosted by the Plant Health and Protection (http://www.arc.agric.za/arc-ppri/Pages/ARC-PPRI-Homepage), Agricultural Research Council, South Africa (Table 1). Myxomycete records include 107 species. In total, the South African checklist presented here includes 1160 species, 307 genera and 95 families.

The Basidiomycota consisted of 1008 species, 251 genera and 72 families. At the class level, the Agaricomycetes had the highest number (Fig. 1) of species (992), genera (242), and families (68) hosting 86% of the total number of species of macrofungi. The largest order was represented by the Agaricales (504 species) followed by the Polyporales (251 species), Boletales (50 species), Russulales (49 species) and Geastrales (33 species). The smallest orders were the Gloeophyllales and Gomphales with only two species. The largest family was the Agaricaceae (180 species) followed by the Polyporaceae (172 species). Orders with only two species were the Gloeophyllale and Gomphales, while the Thelephorales had four, and the Tremmelales 6 species.

The Ascomycota was represented by 44 species distributed among 20 genera and 10 families. The Pezizomycetes had 34 species, Sordariomycetes 9 species and the Leotiomycetes one species (Table 1). However, the total number of species in these groups are biased in this study to include only those that can be considered as a macrofungus. One member of the Mucorales (*Pilobolus crystallinus*, Mucoromycota) was also included (Table 1).

More than hundred slime molds have been recorded from South Africa based on the list (Table 1, Fig. 1), with the Physarales (Myxomycota) having the most species (57 species). The 107 names of slime molds contributed originated from published and unpublished sources (Duthie 1917a, b; Doidge 1950; Ndiritu et. al. 2009; Ndiritu and De Haan 2017; Winset KE unpubl. data). Only accepted taxonomic names following the nomenclatural criteria proposed by Lado (2005–2018), which is recognized by the Encyclopedia of Life under Species 2000 and ITIS Catalogue of Life (http://eol.org/), were used. All of the five orders of myxomycetes are present in South Africa, and include the Echinosteliales (represented by one family and one genus), Liceales (four families and six genera), Physarales (two families and three genera), Stemonitales (one family and seven genera) and Trichiales (two families and seven genera). The Protosteliales (Protostelids), a sixth order though not generally regarded

Table 1. Checklist of macrofungi and myxomycetes from South Africa.

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Ascomycota	Leotiomycetes	Helotiales	Chlorociboriaceae	*Chlorociboria*	*aeruginosa*	(Nyl.) Kanouse ex C.S. Ramamurthi, Korf & L.R. Batra		Yes	
		Pezizomycetes	Pezizales	Helvellaceae	*Paxina*	*leucomelas*	(Pers.) Kuntze		Yes	
					Helvella	*crispa*	(Scop.) Fr.		Yes	
						lacunosa	Afzel.		Yes	
				Morchellaceae	*Morchella*	*conica*	Krombh.	PREM	Yes	
						elata	Fr.		Yes	
						hybrida	Pers.	PREM		
				Pezizaceae	*Kalaharituber*	*pfeilii*	(Henn.) Trappe & Kagan-Zur		Yes	
					Peziza	*ammophila*	Saut.		Yes	
						dehnii	Rabenh.	PREM		
						hortensis	P. Crouan & H. Crouan	PREM		
						macropus	Schumach.	PREM		
						nilgherrensis	Cooke	PREM		
						ostracoderma	Korf	PREM		
						repanda	Pers.	PREM		
						silvestris	(Boud.) Sacc. & Traverso	PREM		
						spissa	Berk.	PREM		
						subrepanda	Cooke & W. Phillips	PREM		
						vesiculosa	Bull.	PREM		
					Pseudohelotium	*pineti*	(Batsch) Fuckel	PREM		
					Terfezia	*austroafricana*	Marasas & Trappe			Marasas and Trappe 1973
						bourdieri	Chatin		Yes	
						claveryi	Chatin		Yes	
				Pyrenomataceae	*Anthracobia*	*melaloma*	(Alb. & Schwein.) Arnould		Yes	
					Isaria	*psychidae*	Pole-Evans	PREM		
						sinclairii	(Berk.) Lloyd		Yes	
					Scutellinia	*badio-berbis*	(Berk. ex Cooke) Kuntze.	PREM		
						margaritacea	(Berk. ex Cooke) Kuntze.	PREM		
						phlyctispora	(Lepr. and Mont.)	PREM		
						scutellata	(L.) Lamb.	PREM	Yes	
				Rhizinaceae	*Rhizina*	*undulata*	Fr.		Yes	
				Sarcoscyphaceae	*Phillipsia*	*kermesina*	Kalchbr. & Cooke			Kalchbrenner and Cooke 1880
				Tuberaceae	*Tuber*	*aestivum*	(Wulfen) Spreng	PREM		
						melanosporum	Vittad.		Yes	
					Choiromyces	*echinulatus*	Trappe & Marasas			Trappe and Marasas 1973
		Sordariomycetes	Hypocreales	Cordycipitaceae	*Cordyceps*	*velutipes*	Massee			Massee 1895

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Ascomycota	Sordariomycetes	Xylariales	Xylariaceae	*Daldinia*	*concentrica*	(Bolton) Ces. & De Not.		Yes	
					Poronia	*oedipus*	(Mont.) Mont.		Yes	
					Xylaria	*longipes*	Nitschke		Yes	
						hypoxylon	L. (Grev.)		Yes	
						polymorpha	(Pers.) Grev.		Yes	
						schreuderiana	Van der Byl			Van der Byl 1932
						stilboidea	Kalchbr. & Cooke			Kalchbrenner and Cooke 1880
					Penzigia	*verrucosa*	Mill			Miller 1942
	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	*Agaricus*	*actiniceps*	Kalchbr. & Cooke			Kalchbrenner and Cooke 1881
						abruptibulbus	Peck	PREM		Van der Westhuizen and Eicker 1988
						alboargillascens	(A. Pearson) Bon			
						alveolatus	Kalchbr.			Kalchbrenner 1881
						arvensis	Schaeff.	PREM	Yes	
						augustus	Fr.	PREM	Yes	
						aures	(Massee) F.M. Bailey	PREM		
						bisporus	(J.E. Lange) Imbach	PREM	Yes	
						bitorquis	(Quél.) Sacc.	PREM	Yes	
						caliginosus	Jungh.	PREM		
						campestris	L.	PREM	Yes	
						chortophilus	Berk.			Berkeley 1843
						comtulus	Ces. ex Mussat	PREM	Yes	
						crocopeplus	Berk. & Broome		Yes	
						diminutivus	Peck		Yes	
						episphaeria	Berk.			Berkeley 1846
						griseovinaceus	A. Pearson ex Pegler			Pearson 1996
						inandae	Cooke			Cooke 1890
						montagnei	Kalchbr.	PREM	Yes	
						nobilis	(A. Pearson) Heinem.	PREM	Yes	
						papilionaceus	Bull.	PREM		
						paurophyllus	Berk.			Berkeley 1876
						peroxydatus	Berk.			Berkeley 1843
						placomyces	Peck	PREM	Yes	
						pleropus	Kalchbr. & MacOwan	PREM		
						pogonatus	Kalchbr.			Kalchbrenner 1881
						purpurellus	(F.H. Møller) F.H. Møller	PREM		Van der Westhuizen and Eicker 1988
						sagittiformis	Kalchbr. & Cooke			Kalchbrenner and Cooke 1881
						semotus	Fr.	PREM	Yes	
						separatus	L.	PREM		
						silvaticus	Schaeff.	PREM	Yes	

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	*Agaricus*	*silvicola*	(Vittad.) Peck		Yes	
						sulphurellus	Kalchbr. & Cooke	PREM		
						trisulphuratus	Berk.	PREM	Yes	
						umbellifer var. *cinnabarinus*	Berk.			Berkeley 1843
						xanthodermus	Genev.	PREM	Yes	
						xanthodermus var. *griseus*	(A. Pearson) Bon & Cappelli	PREM		
						xanthodermus var. *lepiotoides*	Maire		Yes	
						xanthodermus var. *meleagrioides*	(A. Pearson) Bon & Cappelli		Yes	
					Arachnion	*alborosella*	Verwoerd	PREM		
						album	Schwein.	PREM		
						firmoderma	Verwoerd	PREM		
						scleroderma	C.G. Loyd	PREM		
					Battarrea	*levispora*	Massee	PREM		
						lycoperdon	(Dicks.) Pers.	PREM		
						phalloides	(Dicks.) Pers.	PREM	Yes	As Battarrea stevenii
						tepperiana	F. Ludw.	PREM		
					Battarreoides	*diguetii*	(Pat. & Har.) R. Heim & T. Herrera	PREM		
					Bovista	*acocksii*	De Villiers, Eicker & Van der Westh.			De Villiers et al. 1989
						capensis	(Fr.) J.C. Coetzee & A.E. van Wyk			Coetzee & Van Wyk 2005
						juglandiformis	Berk. ex Massee			Massee 1888
						lilacina	Mont. & Berk.	PREM		
						promontorii	Kreisel			Kreisel 1967
						umbrina	Bottomley			Bottomley 1948
					Calvatia	*caelata*	(Bull.) Morgan	PREM		
						candida	(Rostk.) Hollós	PREM		
						capensis	(Lloyd) J.C. Coetzee, Eicker & A.E. van Wyk	PREM		
						cyathiformis	(Bosc) Morgan	PREM		
						flava	(Massee) Kreisel	PREM		
						gigantea	(Batsch) Lloyd	PREM		
						incerta	Bottomley			Bottomley 1948
						lepidophora	(Ellis & Everh.) Coker & Couch	PREM		
						lilacina	(Mont. & Berk.) Henn.	PREM	Yes	
						rubroflava	(Cragin) Lloyd	PREM		
					Chlamydopus	*meyenianus*	(Klotzsch) Lloyd	PREM		
					Chlorophyllum	*molybdites*	(G. Mey.) Massee	PREM	Yes	

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	*Chlorophyllum*	*africanum*	Z.W. Ge & A. Jacobs	PREM		Ge et al. 2018
						palaeotropicum	Z.W. Ge & A. Jacobs	PREM		Ge et al. 2018
					Coniolepiota	*spongodes*	(Berk. & Broome) Vellinga		Yes	
					Coprinellus	*curtus*	(Kalchbr.) Vilgalys, Hopple & Jacq. Johnson	PREM		
						disseminatus	(Pers.) J.E. Lange		Yes	
						domesticus	(Bolton) Vilgalys, Hopple & Jacq. Johnson		Yes	
						ephemerus	(Bull.) Redhead, Vilgalys & Moncalvo	PREM		
						heptemerus	(M. Lange & A.H. Sm.) Vilgalys, Hopple & Jacq. Johnson		Yes	
						micaceus	(Bull.) Vilgalys, Hopple & Jacq. Johnson	PREM	Yes	
						truncorum	(Scop.) Redhead, Vilgalys & Moncalvo	PREM		
					Coprinopsis	*atramentaria*	(Bull.) Redhead, Vilgalys & Moncalvo	PREM	Yes	
						cinerea	(Schaeff.) Redhead, Vilgalys & Moncalvo	PREM		
						lagopus	(Fr.) Redhead, Vilgalys & Moncalvo		Yes	
						nivea	(Pers.) Redhead, Vilgalys & Moncalvo	PREM	Yes	
						picacea	(Bull.) Redhead, Vilgalys & Moncalvo	PREM		Wood 2017
						stercorea	(Fr.) Redhead, Vilgalys & Moncalvo	PREM		
					Coprinus	*agricola*	A. Pearson			Pearson 1950
						comatus	(O.F. Müll.) Pers.	PREM	Yes	
						digitalis	(Batsch) Fr.	PREM		
						papillatus	(Batsch) Fr.	PREM		
						punctatus	Kalchbr.	PREM		
					Crucibulum	*vulgare*	Tul. & C. Tul.	PREM		
					Disciseda	*candida*	(Schwein.) Lloyd	PREM		
						castanea	(Lév.) Bottomley	PREM		
						cervina	(Berk.) G.H. Cunningham	PREM		
						hypogaea	(Cooke & Massee) G. Cunn.	PREM		
						verrucosa	G. Cunn.	PREM		
					Gyrophragmium	*delilei*	Mont	PREM		
					Langermannia	*wahlbergii*	(Fr.) Dring	PREM		
					Lepiota	*acutesquamosa*	(Weinm.) P. Kumm.	PREM		Van der Westhuizen and Eicker 1988
						canescens	A. Pearson	PREM		
						citrinella	Beeli	PREM		
					Lepiota	*cristata*	(Bolton) P. Kumm.	PREM	Yes	
						cristatocystidiata	A. Pearson	PREM		

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	*Lepiota*	*cutifracta*	A. Pearson	PREM		
						flava	Beeli	PREM		Van der Westhuizen and Eicker 1988
						fustiformis	A. Pearson	PREM		
						goossensiae	Beeli	PREM		Van der Westhuizen and Eicker 1988
						helveola	Bres.		Yes	
						hispida	Gillet	PREM		Van der Westhuizen and Eicker 1988
						ianthina	Sacc.	PREM		Van der Westhuizen and Eicker 1988
						lutea	Matt.	PREM		
						morganii	(Peck) Sacc.	PREM		
						naucina var. *leucothites*	(Vittad.) Sacc.	PREM		
						nympharum	(Kalchbr.) Kalchbr.	PREM		Van der Westhuizen and Eicker 1988
						praeclara	A. Pearson			Pearson 1950
						parvannulata	(Lasch) Gillet	PREM		Van der Westhuizen and Eicker 1988
						rhizobola	(Berk.) Sacc.	PREM		
						roseolescens	A. Pearson	PREM		
						roseosquamosa	Beeli	PREM		Van der Westhuizen and Eicker 1988
						truncata	A. Pearson	PREM		
						umbrinozonata	A. Pearson	PREM		
						varians	(Kalchbr. & MacOwan) Sacc.	PREM		
						virescens	Pat.	PREM		
					Leucoagaricus	*bisporus*	Heinem.	PREM	Yes	
						leucothites	(Vittad.) Wasser		Yes	
						naucina	(Vittad.) Wasser	PREM		Van der Westhuizen and Eicker 1988
						rubrotinctus	(Peck) Singer		Yes	
						birnbaumii	(Corda) Singer	PREM	Yes	
						brebissonii	(Godey) Locq.		Yes	
						cepistipes	(Sowerby) Pat.	PREM		
						fragilissimus	(Ravenel ex Berk. & M.A. Curtis) Pat.		Yes	
						zeyheri	(Berk.) Singer	PREM		
					Lycoperdon	*asperum*	(Lév.) Speg.	PREM		
						caespitosum	Welw. & Curr.	PREM		
						caffrorum	Kalchbr. & Cooke	PREM		
						djurense	Henn.	PREM		
						duthiei	Bottomley	PREM		
						flavum	Massee	PREM		
						gunnii	Berk.	PREM		
						hiemale	Vent.	PREM		
						perlatum	Pers.	PREM	Yes	

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	*Lycoperdon*	*polymorphum*	Vittad.	PREM		
						pratense	Pers.		Yes	As Vascellum pratense
						pusillum	Batsch	PREM		
						qudenii	Bottomley	PREM		
						radicatum	Durieu & Mont.	PREM		
						subincarnatum	Peck	PREM		
						umbrinum	Hornem.	PREM		
					Macrolepiota	*excoriatus*	(Schaeff.) Wasser	PREM		Van der Westhuizen and Eicker 1988
						procera	(Scop.) Singer	PREM	Yes	
						prominens	(Sacc.) M.M. Moser		Yes	
						rhacodes	(Vittad.) Singer		Yes	
						zeyheri	(Berk. & Singer) Heinem.	PREM	Yes	
					Montagnea	*aurenaria*	(DC.) Zeller			Reid and Eicker 1991
						haussknechtii	Rabenh.			Reid and Eicker 1991
					Montagnites	*candollei*	Speg.	PREM		
					Mycenastrum	*corium*	(Guers.) Desv.	PREM		
					Parasola	*hemerobia*	(Fr.) Redhead, Vilgalys & Hopple	PREM		
						plicatilis	(Curtis) Redhead, Vilgalys & Hopple	PREM	Yes	
					Polyplocium	*inquinans*	Berk.	PREM		
					Psalliota	*campestris*	(L.) Quél.	PREM		
						alboargillascens	A. Pearson	PREM		
						arvensis	Schaeff.	PREM		
						arvensis var. *hortensis*	W.G. Sm.	PREM		
						comtula	(Fr.) Quél.	PREM		
						duriuscula	Velen.	PREM		
						mixta	A. Pearson	PREM		
						nobilis	A. Pearson			Pearson 1950
						placomyces	Peck	PREM		
						pratensis	(Schaeff.) Gillet	PREM		
						rodmanni	(Peck) Kauffman	PREM		
						volvata	A. Pearson			Pearson 1950
						xanthoderma var. *meleagrioides*	A. Pearson	PREM		
					Secotium	*gueinzii*	Kunze			Kunze 1840
						obtusum	C.G. Loyd	PREM		
					Tulostoma	*albicans*	V.S. White		Yes	
						bonianum	Pat.		Yes	
						cyclophorum	Lloyd		Yes	
						exasperatosporum	J.E. Wright	PREM		

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	*Tulostoma*	*gracilipes*	J.E. Wright	PREM		
						lesliei	Van der Byl	PREM		
						purpusii	Henn.		Yes	
						transvaalii	C.G. Loyd	PREM		
					Xanthagaricus	*luteolosporus*	(Heinem. & Little Flower) Little Flower, Hosag. & T.K. Abraham	PREM	Yes	
				Amanitaceae	*Amanita*	*aureofloccosa*	Bas		Yes	
						capensis	Walleyn & Rammeloo		Yes	
						excelsa	(Fr.) Bertill.	PREM	Yes	
						foetidissima	D.A. Reid & Eicker	PREM	Yes	
						mappa	(Batsch) Bertill.		Yes	
						muscaria	(L.) Lam.	PREM	Yes	
						pantherina	(DC.) Krombh.	PREM	Yes	
						phalloides	(Vaill. ex Fr.) Link	PREM	Yes	
						phalloides var. *alba*	Costantin & L.M. Dufour		Yes	
						phalloides var. *umbrina*	(Ferry) Maire		Yes	
						reidii	Eicker & Greuning		Yes	
						pleropus	(Kalchbr. & MacOwan) D.A. Reid	PREM	Yes	
						rubescens	Pers.	PREM	Yes	
						solitaria	(Bull.) Fr.	PREM		
						strobiliformis	(Paulet ex Vittad.) Bertill.	PREM	Yes	
						vaginata	(Bull.) Lam.	PREM		
						veldiei	D.A. Reid & Eicker		Yes	
					Limacella	*guttata*	(Pers.) Konrad & Maubl.		Yes	
					Saproamanita	*praeclara*	(A. Pearson) Redhead, Vizzini, Drehmel & Contu	PREM	Yes	
				Bolbitiaceae	*Bolbitius*	*titubans*	(Bull.) Fr.	PREM	Yes	
						vitellinus	(Pers.) Fr.	PREM	Yes	
						liberatus	(Berk.) R. Heim	PREM		
					Conocybe	*apala*	(Fr.) Arnolds		Yes	
						tenera	(Schaeff.) Fayod	PREM	Yes	
					Galeropsis	*mitriformis*	(Berk.) R. Heim	PREM		
					Pluteolus	*reticulatus*	(Pers.) Gillet	PREM		Van der Westhuizen and Eicker 1988
				Broomeiaceae	*Broomeia*	*congregata*	Berk.	PREM	Yes	
						ellipsospora	Höhn.	PREM	Yes	
				Clavariaceae	*Clavaria*	*abietina*	Schumach.	PREM		
						capensis	Thunb.			Thunberg 1800
						cinerea	Bull.	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Agaricales	Clavariaceae	*Clavaria*	*cladoniae*	Kalchbr.	PREM		
						contorta	Holmsk.	PREM		
						corniculata	Schaeff.	PREM		
						cristata	(Holmsk.) Pers.	PREM		
						flaccida	Fr.	PREM		
						helicoides	Pat. & Demange	PREM		
						kunzei	Fr.	PREM		
						laeticolor	Berk. & M.A. Curtis	PREM		
						ligula	Schaeff.	PREM		
						persimilis	Cotton	PREM		
						pulchra	Peck	PREM		
						stricta	Schumach.	PREM		
					Clavulinopsis	*luteoalba*	(Rea) Corner		Yes	
						ochracea	Corner	PREM		
					Mucronella	*aggregata*	(Fr.) Fr.	PREM		
				Cortinariaceae	*Cortinarius*	*argutus*	Fr.	PREM		
						brunneolimosus	A. Pearson	PREM		
						camurus	Fr.	PREM		Van der Westhuizen and Eicker 1988
						castaneus	(Bull.) Fr.	PREM		
						fuscotinctus	Rea	PREM		Van der Westbuizen and Eicker 1988
						lepidopus	Cooke	PREM		Van der Westbuizen and Eicker 1988
						multiformis	(Fr.) Fr.	PREM		
						radiofibrillosus	A. Pearson	PREM		
					Locellina	*acetabulosa*	(Sowerby) Sacc.	PREM		
				Cyphellaceae	*Chondrostereum*	*purpureum*	(Pers.) Pouzar	PREM	Yes	
					Cyphella	*tabacina*	Cooke & W. Phillips	PREM		
						applanata	P.H.B. Talbot	PREM		
						farinacea	Kalchbr. & Cooke	PREM		
				Entolomataceae	*Claudopus*	*variabilis*	(Pers.) Fr.	PREM		
					Clitopilus	*prunulus*	(Scop.) P. Kumm.	PREM	Yes	
					Entoloma	*lividum*	(Bull.) Quél.	PREM		
						olivipes	A. Pearson ex Pegler			Pearson 1996
						sagittiforme	(Kalchbr. & Cooke) Sacc.	PREM		
				Fistulinaceae	*Fistulina*	*africana*	Van der Byl	PREM	Yes	
				Hydnangiaceae	*Laccaria*	*amethystea*	(Bull.) Murrill	PREM	Yes	
						laccata	(Scop.) Cooke	PREM	Yes	
						tortilis	(Bolton) Cooke		Yes	
				Hygrophoraceae	*Hygrocybe*	*aurantiorufa*	A. Pearson ex Pegler			Pearson 1996
						chlorophana	(Fr.) Wünsche		Yes	

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Fungi	Basidiomycota	Agaricomycetes	Agaricales	Hygrophoraceae	*Hygrocybe*	*conica*	Velen.	PREM	Yes	
						nigrescens	(Quél.) Kühner	PREM	Yes	
						zuluensis	Boertm.			Boertman 1998
					Hygrophorus	*coccineus*	(Schaeff.) Fr.	PREM		
						conicus	(Schaeff.) Fr.	PREM		
						conicus var. *nigrescens*	(Quél.) Konrad & Maubl.	PREM		
							(Quél.) Konrad & Maubl.	PREM		
						discolor	(Feltgen) Sacc. & Trotter	PREM		
				Incertae sedis	*Anellaria*	*separata*	(L.) P. Karst.	PREM		
					Panaeolina	*foenisecii*	(Pers.) Maire	PREM	Yes	
					Panaeolus	*caliginosus*	(Jungh.) Gillet	PREM		
						campanulatus	(L.) Quél.	PREM		Van der Westhuizen and Eicker 1988
						fimicola	(Pers.) Gillet	PREM		
						fimicoloides	A. Pearson	PREM		
						papilionaceus	(Bull.) Quél.	PREM	Yes	
						retirugus	(Fr.) Gillet	PREM		
						semiovatus	(Sowerby) S. Lundell & Nannf.		Yes	
						semiovatus f. *exannulatus*	A. Pearson			Pearson 1950
						solidipes	(Peck) Sacc.	PREM		
						sphinctrinus	(Fr.) Quél.	PREM		
						subbalteatus	(Berk. & Broome) Sacc.		Yes	
				Inocybaceae	*Astrosporina*	*maritima*	(P. Karst.) Rea	PREM		Van der Westhuizen and Eicker 1988
					Crepidotus	*austroafricanus*	Pilát			Pilát 1950
						haustellaris	(Fr.) P. Kumm.	PREM		
						inandae	Cooke	PREM		
						mollis	(Schaeff.) Staude	PREM	Yes	
						pogonatus	Kalchbr.	PREM		
						variabillis	(Pers.) P. Kumm.	PREM	Yes	
					Inocybe	*cinnamomea*	A. Pearson ex Pegler			Pearson 1996
						congregata	A. Pearson			Pearson 1950
						curvipes	P. Karst.			Vellinga et al. 2009
				Inocybaceae	*Inocybe*	*eutheles*	Sacc.	PREM	Yes	
						hirtella	Bres.		Yes	
						lanuginella	(J. Schröt.) Konrad & Maubl		Yes	
						microspora	J.E. Lange	PREM		Van der Westhuizen and Eicker 1988
						mixtilis	(Britzelm.) Sacc.	PREM		Van der Westhuizen and Eicker 1988
						*	Gillet		Yes	
						patouillardii	Bres.		Yes	

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Fungi	Basidiomycota	Agaricomycetes	Agaricales	Inocybaceae	*Inocybe*	*pullata*	A. Pearson ex Pegler			Pearson and Pegler 1996
					Phaeoglabrotricha	*farinacea*	(Kalchbr. & Cooke) W.B. Cooke	PREM		
					Phaeosolenia	*densa*	(Berk.) W.B. Cooke	PREM		
				Lyophyllaceae	*Lyophyllum*	*decastes*	(Fr.) Singer		Yes	
					Podabrella	*microcarpa*	(Berk. & Broome) Singer	PREM		
					Termitomyces	*clypeatus*	R. Heim		Yes	
						microcarpus	(Berk. & Broome) R. Heim		Yes	
						reticulatus	Van der Westh. & Eicker		Yes	
						sagittiformis	(Kalchbr. & Cooke) D.A. Reid		Yes	
						schimperi	(Pat.) R. Heim		Yes	
						umkowaan	(Cooke & Massee) D.A. Reid		Yes	
				Marasmiaceae	*Calyptella*	*capensis*	W.B. Cooke & P.H.B. Talbot	PREM		
						capensis	(Berk.) D.A. Reid		Yes	
					Marasmius	*bekolacongoli*	Beeli		Yes	
						calopus	(Pers.) Fr.	PREM		
						candidus	(Bolton) Fr.	PREM		
						delectans	Morgan	PREM		Van der Westhuizen and Eicker 1988
						epiphyllus	(Pers.) Fr.	PREM		Van der Westhuizen and Eicker 1988
						filaris	Kalchbr. & MacOwan	PREM		
						haematocephalus	(Mont.) Fr.		Yes	
						helvolus	Berk.	PREM		
						oreades	(Bolton) Fr.		Yes	
						oreadoides	Pass.	PREM		
						petalinus	Berk. & M.A. Curtis	PREM		
						rotula	(Scop.) Fr.	PREM		Van der Westhuizen and Eicker 1988
						scorodonius	(Fr.) Fr.	PREM		Van der Westhuizen and Eicker 1988
						siccus	(Schwein.) Fr.	PREM		Van der Westhuizen and Eicker 1988
						tener	Berk. & M.A. Curtis	PREM		
						thwaitesii	Berk. & Broome	PREM		
						titanosporus	D.A. Reid & Jacot Guill.			Reid and Guillarmod 1988
				Marasmiaceae	*Marasmius*	*zenkeri*	Henn.	PREM		
					Solenia	*minima*	Cooke & W. Phillips	PREM		
						natalensis	W.B. Cooke	PREM		
						rhoina	W.B. Cooke	PREM		
				Mycenaceae	*Cruentomycena*	*viscidocruenta*	(Cleland) R.H. Petersen & Kovalenko		Yes	
					Favolaschia	*thwaitesii*	(Berk. & Broome) Kuntze	PREM	Yes	
					Mycena	*acicula*	(Schaeff.) P. Kumm.	PREM		Van der Westhuizen and Eicker 1988
						aetites	(Fr.) Quél.		Yes	

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Fungi	Basidiomycota	Agaricomycetes	Agaricales	Mycenaceae	*Mycena*	*alcalina*	(Fr.) P. Kumm.	PREM		
						alcalinoides	A. Pearson	PREM		
						clavicularis	(Fr.) Gillet	PREM		
						corticola	(Schumach.) Quél.	PREM		Van der Westhuizen and Eicker 1988
						hiemalis	(Osbeck) Quél.	PREM		
						hyalina	A. Pearson	PREM		
						pura	(Pers.) P. Kumm.		Yes	
						rhodiophylla	(Kalchbr.) Sacc.	PREM		
						rubromarginata	(Fr.) P. Kumm.	PREM		
						sciola	(Kalchbr.) Sacc.	PREM		
						vibecina	A. Pearson	PREM	Yes	
				Niaceae	*Flagelloscypha*	*applanata*	(P.H.B. Talbot) W.B. Cooke	PREM		
					Lachnella	*alboviolascens*	(Alb. & Schwein.) Fr.	PREM		
				Nidulariaceae	*Cyathus*	*berkeleyanus*	(Tul. & C. Tul.) Lloyd	PREM		
						dasypus	Nees	PREM		
						hookeri	Berk.	PREM		
						microsporus	Tul. & C. Tul.	PREM		
						minutosporus	Lloyd	PREM		
						montagnei	Tul. & C. Tul.	PREM		
						olla	(Batsch) Pers.	PREM	Yes	
						pallidus	Berk. & M.A. Curtis	PREM		
						poeppigii	Tul. & C. Tul.	PREM		
						stercoreus	(Schwein.) De Toni	PREM		
						striatus	(Huds.) Willd.		Yes	
						vernicosus	(Bull.) DC.	PREM		
				Omphalotaceae	*Anthracophyllum*	*nigritum*	(Lév.) Kalchbr.	PREM		
						archeri	(Berk.) Pegler		Yes	
					Gymnopus	*androsaceus*	(L.) Della Magg. & Trassin.	PREM	Yes	
					Marasmiellus	*candidus*	(Fr.) Singer		Yes	
					Omphalotus	*olearius*	(DC.) Singer		Yes	
				Phelloriniaceae	*Phellorinia*	*inquinans*	Berk.	PREM		
						squamosa	Kalchbr. & MacOwan	PREM		
						strobilina	(Kalchbr.) Kalchbr.	PREM		
				Physalacriaceae	*Armillaria*	*fuscipes*	Petch.		Yes	Coetzee et al. 2000
						gallica	Marxm.			Coetzee et al. 2003
						mellea	(Vahl) P. Kumm.	PREM	Yes	Coetzee et al. 2000
						ramentacea	(Bull.) Gillet	PREM		
					Armillariella	*polymyces*	(Pers.) Singer & Clémençon		Yes	
					Cyptotrama	*asprata*	(Berk.) Redhead & Ginns	PREM	Yes	

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Fungi	Basidiomycota	Agaricomycetes	Agaricales	Physalacriaceae	*Oudemansiella*	*canarii*	(Jungh.) Höhn.	PREM		
					Hymenopellis	*radicata*	(Relhan) Singer	PREM		Van der Westhuizen and Eicker 1988
					Physalacria	*decaryi*	Pat.	PREM		
					Xerula	*atrocaerulea*	R.H. Petersen & Bougher			Petersen and Bougher 2008
				Pleurotaceae	*Pleurotus*	*applicatus*	(Batsch) P. Kumm.	PREM		
						geesterani	Singer			Singer 1962
						gilvescens	(Kalchbr.) Sacc.	PREM		
						lenticula	(Kalchbr.) Sacc.	PREM		
						limpidus	(Fr.) Sacc.	PREM		
						ostreatus	(Jacq.) P. Kumm.	PREM	Yes	
						perpusillus	(Lumn.) Gillet	PREM		
						pulmonarius	(Fr.) Quél.		Yes	
						sajor-caju	(Fr.) Singer	PREM		
						sciadium	(Kalchbr. & MacOwan) Sacc.	PREM		
						septicus	(Fr.) P. Kumm.	PREM		
				Pluteaceae	*Pluteus*	*atromarginatus*	(Konrad) Kühner	PREM		
						pellitus	(Pers.) P. Kumm.	PREM		
						romelli	(Britzelm.) Sacc.		Yes	
						salicinus	(Pers.) P. Kumm.		Yes	
						semibulbosus	(Lasch) Gillet		Yes	
						thomsonii	(Berk. & Broome) Dennis	PREM		
					Volvariella	*speciosa*	(Fr.) Singer		Yes	
				Podaxaceae	*Podaxis*	*africana*	De Villiers, Eicker & Van der Westh.	PREM		
						pistillaris	(L.) Fr.	PREM	Yes	
						rugospora	De Villiers, Eicker & Van der Westh.	PREM		
				Psathyrellaceae	*Ozonium*	*omnivorum*	Shear	PREM		
					Psathyrella	*griseola*	A. Pearson	PREM		
						condolleana	(Fr.) Maire		Yes	
						lionella	A. Pearson ex Pegler			Pearson 1996
				Psathyrellaceae	*Psathyrella*	*praelonga*	A. Pearson			Pearson 1950
						varicosa	A. Pearson			Pearson 1950
				Pterullaceae	*Pterula*	*subulata*	Fr.		Yes	
				Schizophillaceae	*Schizophyllum*	*commune*	Fr.		Yes	
				Sebacinaceae	*Sebacina*	*schweinitzii*	(Peck) Oberw.		Yes	
				Strophariaceae	*Agrocybe*	*praecox*	(Pers.) Fayod	PREM	Yes	
						pediades	(Fr.) Fayod		Yes	
					Deconica	*atrorufa*	(Schaeff.) P. Karst.	PREM		
						coprophila	(Bull.) Fr.	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Agaricales	Strophariaceae	*Deconica*	*protea*	(Kalchbr.) Desjardin & B.A. Perry			Kalchbrenner 1876 (as *Agaricus proteus*)
					Flammula	*alnicola*	(Fr.) P. Kumm.	PREM		
						harmoge	(Fr.) Sacc.	PREM		
						hybrida	(Bull.) Gillet	PREM		
						laetilamellata	A. Pearson	PREM		
						luxurians	A. Pearson	PREM		
						papillata	A. Pearson	PREM		
						penetrans	(Fr.) Quél.	PREM		
						sapinea	(Fr.) Pat.	PREM		
					Galera	*hypnorum*	(Batsch) Quél.	PREM		
						lateritia	(Fr.) P. Kumm.	PREM		
						pygmaeoaffinis	(Fr.) Quél.	PREM		Van der Westhuizen and Eicker 1988
						spartea	Velen.	PREM		Van der Westhuizen and Eicker 1988
						tenera	(Schaeff.) P. Kumm.	PREM		
						tenera var. *siliginea*	(Fr.) P. Kumm.	PREM		
					Gymnopilus	*hybridus*	(Bull.) Maire		Yes	
						junonius	(Fr.) P.D. Orton	PREM	Yes	
						penetrans	(Fr.) Murrill	PREM	Yes	
						sapineus	(Fr.) Murrill		Yes	
					Hebeloma	*angustispermum*	A. Pearson	PREM		
						anthracophilum	Maire	PREM		
						crustuliniforme	(Bull.) Quél.		Yes	
						cylindrosporum	Romagn.	PREM	Yes	
						nudipes	(Fr.) Kalchbr.	PREM		
						sinapizans	(Paulet) Gillet		Yes	
						spoliatum	(Fr.) Gillet	PREM		
					Hymenogaster	*albellus*	Massee & Rodway	PREM		
						reticulatus	Zeller & C.W.	PREM		
					Hypholoma	*candolleanum*	(Fr.) Quél.	PREM		
						fasciculare	(Huds.) P. Kumm.	PREM	Yes	
						lateritium	(Schaeff.) P. Kumm.	PREM		
					Kuehneromyces	*mutabilis*	(Schaeff.) Singer & A.H. Sm.	PREM		
					Leratiomyces	*ceres*	(Cooke & Massee) Spooner & Bridge 2008		Yes	
					Naucoria	*pediades*	(Fr.) P. Kumm.	PREM		
						russa	(Cooke & Massee) Sacc.	PREM		
						scolecina	(Fr.) Quél.	PREM		
						semiorbicularis	(Bull.) Quél.	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Agaricales	Strophariaceae	*Naucoria*	*undulosa*	(Fr.) Sacc.	PREM		
					Pholiota	*aurivella*	(Batsch) P. Kumm.	PREM		
						caperata	(Pers.) Gillet	PREM		
						cylindracea	(DC.) Gillet	PREM		
						flammans	(Batsch) P. Kumm.	PREM		
						mutabilis	(Schaeff.) P. Kumm.	PREM		
						parva	A. Pearson	PREM		
						pseudoerebia	A. Pearson	PREM		
						squarrosa	(Oeder) P. Kumm.		Yes	
						spectabilis	(Fr.) P. Kumm.	PREM		
						togularis	(Bull.) P. Kumm.	PREM		
						unicolor	(Vahl) Gillet	PREM		
					Psilocybe	*coprophila*	(Bull.) P. Kumm.		Yes	
						cylindrispora	A. Pearson			Pearson 1950
						natalensis	Gartz, D.A. Reid, M.T. Sm. & Eicker	PREM		
					Stropharia	*coccinea*	A. Pearson ex Pegler			Pearson 1996
						semiglobata	(Batsch) Quél.		Yes	
					Tubaria	*furfuracea*	(Pers.) Gillet		Yes	
				Tricholomataceae	*Amparoina*	*spinosissima*	(Singer) Singer		Yes	
					Cellypha	*rhoina*	(W.B. Cooke) W.B. Cooke	PREM		
					Clitocybe	*expallens*	(Pers.) P. Kumm.	PREM		
						fragrans	(With.) P. Kumm.	PREM		
						gentianea	Quél.	PREM		
						nuda	(Bull.) H.E. Bigelow & A.H. Sm.	PREM		Van der Westhuizen and Eicker 1988 (as *Lepista nuda*)
						rivulosa	(Pers.) P. Kumm.	PREM		
						splendens	(Pers.) Gillet	PREM		
						toxica	Stephens			Stephens 1966
					Collybia	*acervata*	(Fr.) P. Kumm.	PREM		
						albuminosa	(Berk.) Petch	PREM		Van der Westhuizen and Eicker 1988
						butyracea	(Bull.) P. Kumm.	PREM		Van der Westhuizen and Eicker 1988
						chrysopepla	(Berk. & M.A. Curtis) A. Pearson	PREM		
						distorta	(Fr.) Quél.	PREM	Yes	
						dryophila	(Bull.) P. Kumm.	PREM	Yes	
						extuberans	(Fr.) Quél.	PREM		
						extuberans	(Fr.) Quél.	PREM		
						fragrantissima	A. Pearson	PREM		
						fusipes	(Bull.) Quél.	PREM	Yes	
						macilenta	(Fr.) Gillet	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Agaricales	Tricholomataceae	*Collybia*	*maculatoides*	A. Pearson	PREM		
						ocellata	(Fr.) P. Kumm.	PREM		
						radicata	(Relhan) Quél.	PREM		
						stridula	(Fr.) Sacc.	PREM		
						velutipes	(Curtis) P. Kumm.	PREM		
					Lepista	*caffrorum*	(Kalchbr. & MacOwan) Singer	PREM	Yes	
						sordida	(Schumach.) Singer	PREM	Yes	
					Macrocybe	*lobayensis*	(R. Heim) Pegler & Lodge	PREM	Yes	
						titans	(H.E. Bigelow & Kimbr.) Pegler, Lodge & Nakasone	PREM		
					Melanoleuca	*brevipes*	(Bull.) Pat.	PREM		
						melaleuca	(Pers.) Murrill	PREM		
					Omphalia	*glaucophylla*	(Lasch) Sacc.	PREM		Van der Westhuizen and Eicker 1988
						micromeles	(Berk. & Broome) Sacc.	PREM		
						oniscus	(Fr.) Gillet	PREM		
						pyxidatoides	A. Pearson	PREM		
						rustica	(Fr.) Quél.	PREM		
					Tricholoma	*albobrunneum*	(Pers.) P. Kumm.		Yes	
						eucalypticum	A. Pearson			Pearson 1950
						melaleucum f. *acystidiatum*	A. Pearson	PREM		
						meridianum	A. Pearson			Pearson 1950
						saponaceum	(Fr.) P. Kumm.		Yes	
						ustale	(Fr.) P. Kumm.		Yes	
					Tricholomopsis	*rutilans*	(Schaeff.) Singer		Yes	
					Tricholosporum	*laeteviolaceum*	D.A. Reid, Eicker, Clémençon & Cec. Roux	PREM		
					Trogia	*cantharelloides*	(Mont.) Pat.		Yes	
			Auriculariales	Auriculariaceae	*Auricularia*	*auricula-judae*	(Bull.) Quél.	PREM	Yes	
						delicata	(Mont.) Henn.	PREM		
						emini	Henn.	PREM		
						fuscosuccinea	(Mont.) Henn.	PREM		
						mesenterica	(Dicks.) Pers.	PREM		
						polytricha	(Mont.) Sacc.	PREM		
						sambucina	Mart.	PREM		
					Eichleriella	*macrospora*	(Ellis & Everh.) G.W. Martin	PREM		
					Exidia	*glandulosa*	(Bull.) Fr.	PREM	Yes	
						purpureocinerea	MacOwan & Kalchbr.	PREM		
					Heterochaete	*byliana*	Talbot	PREM		

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Auriculariales	Auriculariaceae	*Heterochaete*	*grandispora*	P.H.B. Talbot	PREM		
				Incertae sedis	*Aporpium*	*caryae*	(Schwein.) Teixeira & D.P. Rogers	PREM		
			Boletales	Boletaceae	*Aureoboletus*	*gentilis*	(Earle) Klofac		Yes	
					Boletus	*aureus*	Schaeff.		Yes	
						aestivalis	(Paulet) Fr.	PREM	Yes	
						bovinus	Rostk.	PREM		
						bovinus var. *viridocaerulescens*	A. Pearson	PREM		
						collinitus	Fr.	PREM		
						edulis	Rostk.	PREM	Yes	
						flavus	Pollini	PREM		
						grevillei	Klotzsch	PREM		
						curtipes	Massee			Massee 1908
						pinicola	Sw.		Yes	
						reticulatus	Schaeff.		Yes	
						stellenbossiensis	Van der Byl			Van der Byl 1925
						subflammeus	Berk.			Berkeley 1876
					Buchwaldoboletus	*hemichrysus*	(Berk. & M.A. Curtis) Singer		Yes	
					Chalciporus	*piperatus*	(Bull.) Bataille	PREM	Yes	
					Imleria	*badia*	(Fr.) Vizzini	PREM	Yes	
					Leccinum	*duriusculum*	(Schulzer ex Kalchbr.) Singer	PREM	Yes	
					Octaviania	*africana*	Lloyd	PREM		
						flava	(Rodway) G. Cunn.	PREM		
					Xerocomellus	*chrysenteron*	(Bull.) Šutara		Yes	
				Boletinellaceae	*Phlebopus*	*sudanicus*	(Har. & Pat.) Heinem.	PREM	Yes	
				Boletinellaceae	*Phlebopus*	*colossus*	(R. Heim) Singer		Yes	
				Coniophoraceae	*Coniophora*	*arida*	(Fr.) P. Karst.	PREM		
						cerebella	(Pers.) Pers.	PREM		
						fodinarum	P.H.B. Talbot	PREM		
						incrustata	P.H.B. Talbot	PREM		
						mollis	Ginns			Ginns 1982
						olivacea	Massee	PREM		
						papillosa	P.H.B. Talbot	PREM		
					Gyrodontium	*capense*	D.A. Reid			Reid 1963
				Gyroporaceae	*Gyroporus*	*castaneus*	(Bull.) Quél.	PREM	Yes	
				Paxillaceae	*Melanogaster*	*ambiguus*	(Vittad.) Tul. & C. Tul.	PREM		
					Paxillus	*extenuatus*	Fr.	PREM		
						involutus	(Batsch) Fr.	PREM	Yes	

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Fungi	Basidiomycota	Agaricomycetes	Boletales	Paxillaceae	*Paxillus*	*panuoides*	(Fr.) Fr.	PREM	Yes	
				Rhizopogonaceae	*Rhizopogon*	*capensis*	C.G. Loyd	PREM		
						luteolus	Fr. & Nordholm		Yes	
				Sclerodermataceae	*Pisolithus*	*tinctorius*	(Mont.) E. Fisch.	PREM	Yes	
					Scleroderma	*capense*	C.G. Loyd	PREM		
						cepa	Pers.		Yes	
						citrinum	Pers.		Yes	
						flavidum	Ellis & Everh.		Yes	
						verrucosum	(Bull.) Pers.		Yes	
						stellenbosiensis	Verwoerd	PREM		
				Serpulaceae	*Serpula*	*himantioides*	(Fr.) P. Karst.		Yes	
				Suillaceae	*Suillus*	*bellinii*	(Inzenga) Watling		Yes	
						bovinus	(L.) Roussel		Yes	
						granulatus	(L.) Roussel		Yes	
						luteus	(L.) Roussel		Yes	
			Cantharellales	Cantharellaceae	*Cantharellus*	*cibarius*	Fr.	PREM		
						longisporus	Heinem.		Yes	
				Ceratobasidiaceae	*Pellicularia*	*asperula*	D.P. Rogers	PREM		
						filamentosa	(Pat.) D.P. Rogers	PREM		
						fodinarum	P.H.B. Talbot & V.C. Green	PREM		
						vaga	(Berk. & M.A. Curtis) D.P. Rogers ex Linder	PREM		
				Clavulinaceae	*Clavulina*	*cinerea*	(Bull.) J. Schröt.	PREM		
						cristata	(Holmsk.) J. Schröt.	PREM	Yes	
			Corticiales	Corticiaceae	*Corticium*	*argillaceum*	Bres.	PREM		
					Corticium	*armeniacum*	Sacc.	PREM		
						coeruleum	(Lam.) Fr.	PREM		
						confluens	(Fr.) Fr.	PREM		
						gloeosporum	P.H.B. Talbot	PREM		
						laetum	(P. Karst.) Bres.	PREM		
						luteocystidiatum	P.H.B. Talbot	PREM		
						moniliforme	P.H.B. Talbot	PREM		
						portentosum	Berk. & M.A. Curtis	PREM		
						punctulatum	Cooke	PREM		
						salmonicolor	Berk. & Broome	PREM		
						scutellare	Berk. & M.A. Curtis	PREM		
						tumulosum	P.H.B. Talbot	PREM		
						vagum	Berk. & M.A. Curtis	PREM		
					Cytidia	*flocculenta*	(Fr.) Höhn. & Litsch.	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Corticiales	Corticiaceae	*Dendrothele*	*duthiei*	P.H.B. Talbot	PREM		
					Laetiporus	*baudonii*	(Pat.) Ryvarden		Yes	
						sulphureus	(Bull.) Murrill	PREM	Yes	
					Tretopileus	*sphaerophorus*	(Berk. & M.A. Curtis) S. Hughes & Deighton	PREM		
			Geastrales	Geastraceae	*Geasteropsis*	*conrathi*	Hollós	PREM		
					Geastrum	*ambiguum*	Mont.	PREM		
						arenarium	Lloyd	PREM		
						bryantii	Berk.	PREM		
						campestre	Morgan	PREM		
						coronatum	Pers.	PREM		
						dissimile	Bottomley	PREM		
						fimbriatum	Tul. & C. Tul.	PREM		
						floriforme	Vittad.	PREM		
						fornicatum	(Huds.) Hook.	PREM		
						hieronymi	Henn.	PREM		
						hygrometricum	Pers.	PREM		
						kotlabae	V.J. Staněk		Yes	
						lageniforme	Cooke	PREM		
						limbatum	Fr.	PREM	Yes	
						mammosum	De Toni	PREM		
						minimum	Chevall.	PREM		
						mirabile	Mont.	PREM		
						nanum	Pers.	PREM		
						pectinatum	Pers.	PREM	Yes	
						pouzarii	V.J. Staněk	PREM		
						quadrifidum	DC. ex Pers.	PREM		
						rabenhorstii	Kunze	PREM		
						saccatum	Speg.	PREM	Yes	
						schmidelii	Vittad.	PREM		
						schweinitzii	(Berk. & M.A. Curtis) Zeller		Yes	
						sessile	(Sowerby) Pouzar		Yes	
						smardae	V.J. Staněk	PREM		
						striatum	Quél.	PREM		
						triplex	Jungh.	PREM	Yes	
						velutinum	Morgan	PREM		
					Myriostoma	*coliforme*	(Dicks.) Corda	PREM	Yes	
						coliforme var. *capillisporum*	V.J. Staněk			Staněk 1958

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Fungi	Basidiomycota	Agaricomycetes	Incertae sedis	Incertae sedis	*Riessia*	*semiophora*	Fresen.	PREM		
			Phallales	Phallaceae	*Anthurus*	*archeri*	(Berk.) E. Fisch.	PREM		
					Aseroë	*rubra*	Labill.	PREM	Yes	
					Blumenavia	*angolensis*	(Welw. & Curr.) Dring		Yes	
					Clathrella	*roseolescens*	E. Fisch.	PREM		
					Clathrus	*affinis*	Lloyd	PREM		
						archeri	(Berk.) Dring	PREM	Yes	
						gracilis	(Berk.) Schltdl.	PREM		
						pseudocancellatus	(E. Fisch.) Lloyd	PREM		
						transvaalensis	Eicker & D.A. Reid		Yes	
					Ileodictyon	*gracile*	Berk.			Bottomley 1948; Coetzee 2010
					Itajahya	*galericulata*	Möller	PREM	Yes	
						rosea	(Delile) E. Fisch.		Yes	
					Jaczewskia	*phalloides*	Mattir.	PREM		
					Kalchbrennera	*corallocephala*	(Welw. & Curr.) Kalchbr.	PREM	Yes	
					Lysurus	*cruciatus*	(Lepr. & Mont.) Henn.			Bottomley 1948; Coetzee 2010
						gardneri	Berk.	PREM		
					Mutinus	*bambusinus*	(Zoll.) E. Fisch.	PREM		
						caninus	(Huds.) Fr.	PREM		
						simplex	Lloyd.	PREM		
					Phallus	*duplicatus*	Bosc		Yes	
						impudicus	L.	PREM	Yes	
						indusiatus	Vent.	PREM	Yes	
					Phallus	*rubicundus*	(Bosc) Fr.	PREM	Yes	
			Polyporales	Fomitopsidaceae	*Daedalea*	*biennis*	(Bull.) Fr.	PREM		
						hobbsii	Van der Byl	PREM		
						quercina	(L.) Pers.	PREM	Yes	
					Fomitopsis	*ochroleuca*	(Berk.) G. Cunn.	PREM		
					Gloeocystidium	*tenue*	(Pat.) Höhn. & Litsch.	PREM		
					Phaeolus	*schweinitzii*	(Fr.) Pat.	PREM	Yes	
					Rhodofomitopsis	*lilacinogilva*	(Berk.) B.K. Cui, M.L. Han & Y.C. Dai	PREM	Yes	
				Ganodermataceae	*Amauroderma*	*leptopus*	(Pers.) J.S. Furtado	PREM		
						fuscoporia	Wakef.			Wakefield 1948
						rude	(Berk.) Torrend	PREM	Yes	
						schomburgkii	(Mont. & Berk.) Torrend	PREM		
						sprucei	(Pat.) Torrend		Yes	
						zuluense	Talbot	PREM		
					Ganoderma	*alluaudi*	Pat. & Har.	PREM		
						annulare	(Fr.) Gilb.	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Gloeophyllales	Gloeophyllaceae	*Gloeophyllum*	*sepiarium*	(Wulfen) P. Karst.	PREM	Yes	
						trabeum	(Pers.) Murrill	PREM	Yes	
			Gomphales	Gomphaceae	*Ramaria*	*formosa*	(Pers.) Quél.		Yes	
				Clavariadelphaceae	*Clavariadelphus*	*clavulinoides*	R.H. Petersen			Petersen 1967
			Hymenochaetales	Hymenochaetaceae	*Coltricia*	*perennis*	(L.) Murrill	PREM	Yes	
					Fomitoparia	*capensis*	M. Fisch., Cloete, L. Mostert & Halleen			Cloete et al. 2014
					Fomitoparia	*punctata*	(P. Karst.) Murrill		Yes	
					Fuscoporia	*gilva*	(Schwein.) T. Wagner & M. Fisch.		Yes	
					Hydnum	*auriscalpium*	Lour.	PREM		
						longospinosum	Lloyd	PREM		
						mucidum	Pers.	PREM		
						sclerodontium	Mont. & Berk.	PREM		
						setosum	Pers.	PREM		
					Hymenochaete	*cinnamomea*	(Pers.) Bres.	PREM		
						contiformis	G. Cunn.	PREM		
						fasciculata	P.H.B. Talbot	PREM		
						fulva	Burt	PREM		
						luteobadia	(Fr.) Höhn. & Litsch.	PREM		
						ochromarginata	P.H.B. Talbot	PREM	Yes	
						pinnatifida	Burt	PREM		
						rubiginosa	(Dicks.) Lév.	PREM	Yes	
						semistupposa	Petch	PREM		
						tabacina	(Sowerby) Lév.	PREM		
			Hymenochaetales	Hymenochaetaceae	*Hymenochaete*	*tristicula*	(Berk. & Broome) Massee	PREM		
					Phellinus	*gilvus*	(Schwein.) Pat.	PREM	Yes	
						igniarius	(L.) Quél.		Yes	
						resupinatus	M. Fisch., Cloete, L. Mostert & Halleen			Cloete et al. 2016
						rimosus	(Berk.) Pilát	PREM	Yes	
					Polystictus	*albobadius*	C.G. Loyd	PREM		
						doidgei	C.G. Loyd	PREM		
						subiculoides	C.G. Loyd	PREM		
					Trichaptum	*byssogenum*	(Jungh.) Ryvarden		Yes	
			Incertae sedis	Incertae sedis	*Cotylidia*	*aurantiaca* f. *infundibuliformis*	D.A. Reid	PREM		
					Grandinia	*bicolor*	P.H.B. Talbot	PREM		
					Heterochaete	*byliana*	P.H.B. Talbot	PREM		
					Heterochaete	*grandispora*	P.H.B. Talbot	PREM		
					Oxyporus	*populinus*	(Schumach.) Donk	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Polyporales	Ganodermataceae	*Ganoderma*	*applanatum*	(Pers.) Pat.	PREM	Yes	
						aridicola	J.H. Xing & B.K. Cui			Xing et al. 2016
						austroafricanum	Coetzee, M.J. Wingf., Marinc., Blanchette			Crous et al. 2014
						chilense	(Fr.) Pat.	PREM		
						colossus	Fr.) C.F. Baker	PREM		
						cf. cupreum	(Sacc.) Bres.			Tchotet et al. 2019
						curtisii	(Berk.) Murrill	PREM		
						destructans	M.P.A. Coetzee, Marinc., M.J. Wingf.			Coetzee et al. 2015
						dunense	Tchotet, Rajchenb. & Jol. Roux			Tchotet et al. 2018
						eickeri	Tchotet, M.P.A. Coetzee, Rachjenb. & Jol. Roux			Tchotet et al. 2019
						eminii	Henn.	PREM		
						cf. cupreum	(Sacc.) Bres			Tchotet et al. 2019
						enigmaticum	M.P.A. Coetzee, Marinc., M.J. Wingf.			Coetzee et al. 2015
						fulvellum	Bres.	PREM		
						hildebrandii	Henn.	PREM		
						knysnamense	Tchotet, M.P.A. Coetzee, Rachjenb. & Jol. Roux			Tchotet et al. 2019
						lucidum	(Curtis) P. Karst.	PREM	Yes	
						mastoporum	(Lév.) Pat.	PREM		
						mollicarnosum	(Lloyd) Sacc. & Trotter	PREM		
						nigrolucidum	(Lloyd) D.A. Reid	PREM		
						oerstedii	(Fr.) Torrend	PREM		
						oregonense	Murrill	PREM		
						oroflavum	(Lloyd) C.J. Humphrey	PREM		
						resinaceum	Boud.	PREM	Yes	Tchotet et al. 2019
						tornatum	(Pers.) Bres.	PREM		
						zonatum	Murrill	PREM		
				Incertae sedis	*Crustodontia*	*chrysocreas*	(Berk. & M.A. Curtis) Hjortstam & Ryvarden		Yes	
				Meruliaceae	*Acia*	*conferta*	P.H.B. Talbot	PREM		
						stenodon	(Pers.) Bourdot & Galzin	PREM		
						uda	(Fr.) P. Karst.	PREM		
					Aegerita	*webberi*	H.S. Fawc	PREM		
					Bjerkandera	*adusta*	(Willd.) P. Karst.	PREM	Yes	
					Cymatoderma	*elegans*	Jungh.	PREM	Yes	
					Gloeoporus	*conchoides*	Mont.	PREM		
						dichrous	(Fr.) Bres.	PREM		
					Irpex	*dregeanus*	(Berk.) P.H.B. Talbot	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Polyporales	Meruliaceae	*Irpex*	*flavus*	(Jungh.) Kalchbr.	PREM		
						grossus	Kalchbr.	PREM		
						modestus	Berk. ex Cooke	PREM		
						obliquus	(Schrad.) Fr.	PREM		
						villereus	Berk. & Broome	PREM		
					Laschia	*frieseana*	(Henn.) Sacc.	PREM		
						pustulata	Berk. & Broome	PREM		
						volkensii	Bres.	PREM		
					Merulius	*corium*	(Pers.) Fr.	PREM		
						gelatinosus	Petch	PREM		
						himantioides	Fr.	PREM		
						lacrymans	(Wulfen) Schumach.	PREM		
						molluscus	Fr.	PREM		
						pinastri	(Fr.) Burt	PREM		
						rufus	Pers.	PREM		
						squalidus	Fr.	PREM		
						tremellosus	Schrad.	PREM		
					Mycoleptodon	*ochraceus*	(Pers.) Bourdot & Galzin	PREM		
					Odontia	*arguta*	(Fr.) Quél.	PREM		
						bicolor	(Alb. & Schwein.) Quél.	PREM		
						mellea	(Berk. & Broome) Rea	PREM		
					Phlebia	*strigosozonata*	(Schwein.) Lloyd	PREM		
					Podoscypha	*affinis*	(Berk. & M.A. Curtis) Pat.	PREM		
						involuta	(Klotzsch) Imazeki	PREM		
						parvula	(Lloyd) D.A. Reid	PREM	Yes	
				Phanerochaetaceae	*Pseudolagarobasidium*	*acaciicola*	Ginns			Wood and Ginns 2006
				Podoscyphaceae	*Abortiporus*	*biennis*	(Bull.) Singer		Yes	
				Polyporaceae	*Coriolopsis*	*lata*	(Berk.) Ryvarden	PREM		
						polyzona	(Pers.) Ryvarden	PREM	Yes	
						strumosa	(Fr.) Ryvarden	PREM		
					Coriolus	*azureus*	(Fr.) G. Cunn.	PREM		
						obducens	(Pers.) Bourdot & Galzin	PREM		
						pubescens	(Schumach.) Quél.	PREM		
						unicolor	(Bull.) Pat.	PREM		
						zonatus	(Nees) Quél.	PREM		
					Daedaleopsis	*confragosa*	(Bolton) J. Schröt.	PREM	Yes	
					Favolus	*brasiliensis*	(Fr.) Fr.	PREM		
						europaeus	Fr.	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	*Favolus*	*friesii*	Berk. & M.A. Curtis	PREM		
						hispidulus	Berk. & M.A. Curtis	PREM		
						spathulatus	(Jungh.) Lév.	PREM	Yes	
					Fomes	*annosus*	(Fr.) Cooke	PREM		
						caliginosus	(Berk.) Cooke	PREM		
						caryophylli	(Racib.) Bres.	PREM		
						conchatus	(Pers.) Gillet	PREM		
						connatus	(Weinm.) Gillet	PREM		
						fraxineus	(Bull.) Cooke	PREM		
						fulvus	(Scop.) Gillet	PREM		
						geotropus	(Cooke) Cooke	PREM		
						gibbosus	(Blume & T. Nees) Sacc.	PREM		
						gilvus	(Schwein.) Lloyd	PREM		
						glaucoporus	Lloyd	PREM		
						hornodermus	(Mont.) Cooke	PREM		
						kamphoeveneri	(Fr.) Sacc.	PREM		
						langloisii	Murrill) Sacc. & D. Sacc.	PREM		
						laricis	(F. Rubel) Murrill	PREM		
						leucophaeus	(Mont.) Cooke	PREM		
						lignosus	(Klotzsch) Bres.	PREM		
						lividus	(Kalchbr. ex Cooke) Sacc.	PREM		
						macgregorii	Bres.	PREM		
						marginatus	(Pers.) Fr.	PREM		
						marmoratus	(Berk. & M.A. Curtis) Cooke	PREM		
						melanoporus	(Mont.) Sacc.	PREM		
						minutulus	Henn.	PREM		
						pachyphloeus	Corner	PREM		
						pectinatus	Lloyd	PREM		
						pinicola	(Sw.) Cooke	PREM		
						putearius	Weir	PREM		
						ribis	(Schumach.) Gillet	PREM		
						rimosus	(Berk.) Cooke	PREM		
						robinsoniae	(Murrill) Sacc. & Trotter	PREM		
						roburneus	Lázaro Ibiza	PREM		
						roseus	(Alb. & Schwein.) Fr.	PREM		
						scalaris	(Berk.) Sacc.	PREM		
						senex	(Nees & Mont.) Cooke	PREM		
						sessilis	(Murrill) Sacc. & D. Sacc.	PREM		
						ulmarius	(Sowerby) Gillet	PREM		

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Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	*Fomes*	*ungulatus*	Lázaro Ibiza	PREM		
						velutinus	Bres.	PREM		
						yucatanensis	(Murrill) Sacc. & D. Sacc.	PREM		
						zambesianus	(Lloyd) Sacc.	PREM		
						zuluensis	Wakef.	PREM		
					Funalia	*gallica*	(Fr.) Bondartsev & Singer		Yes	
						leonina	(Klotzsch) Pat.	PREM		
						protea	(Berk.) D.A. Reid		Yes	
						trogii	(Berk.) Bondartsev & Singer		Yes	
					Grammothele	*pseudomappa*	P.H.B. Talbot	PREM		
					Heliocybe	*sulcata*	(Berk.) Redhead & Ginns		Yes	
					Hexagonia	*albida*	Lloyd	PREM		
						crinigera	Fr.	PREM		
						discopoda	Pat. & Har.	PREM		
						dregeana	Lév.	PREM		
						friesiana	Speg.	PREM		
						glabra	(P. Beauv.) Ryvarden	PREM		
						hirta f. *hystrix*	(Cooke) O. Fidalgo	PREM		
						pobeguinii	Har.	PREM		
						polygramma	(Mont.) Fr.	PREM		
						rigida	Berk.	PREM		
						speciosa	Fr.	PREM		
						tenuis	(Hook.) Fr.	PREM	Yes	
						tricolor	Fr.	PREM		
						zambesiana	Torrend	PREM		
					Lentinus	*arcularius*	(Batsch) Zmitr	PREM	Yes	
						bissus	Quél.	PREM		
						fastuosus	Kalchbr. & MacOwan	PREM		
						flabelliformis	(Bolton) Fr.	PREM		
						lecomtei	Fr.	PREM		
						murrayi	Kalchbr. & MacOwan	PREM		
						nigripes	Fr.	PREM		
						omphalodes var. *africanus*	A. Pearson			Pearson 1950
						sajor-caju	(Fr.) Fr.	PREM	Yes	
						strigosus	Fr.	PREM	Yes	
						stuppeus	Klotzsch	PREM	Yes	
						tigrinus	(Bull.) Fr.	PREM		
						tuber-regium	(Fr.) Fr.	PREM		

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	*Lentinus*	*velutinus*	Fr.	PREM	Yes	
						villosus	Klotzsch	PREM	Yes	
						zeyheri	Berk.	PREM		
					Lenzites	*abietina*	(Bull.) Fr.	PREM		
						aspera	(Klotzsch) Fr.	PREM		
						betulina	(L.) Fr.	PREM	Yes	
						guineensis	(Afzel. ex Fr.) Fr.	PREM		
						junghuhnii	Lév.	PREM		
						palisoti	(Fr.) Fr.	PREM		
						quercina	(L.) P. Karst.	PREM		
						repanda	(Mont.) Fr.	PREM		
						tricolor	(Bull.) Fr.	PREM		
					Lopharia	*lirellosa*	Kalchbr. & MacOwan			Kalchbrenner & MacOwan 1881
						mirabilis	(Berk. & Broome) Pat.	PREM		
					Lignosus	*sacer*	(Afzel. ex Fr.) Ryvarden	PREM	Yes	
					Microporus	*xanthopus*	(Fr.) Kuntze	PREM	Yes	
					Nigroporus	*vinosus*	(Berk.) Murrill	PREM		
					Neolentinus	*lepideus*	(Fr.) Redhead & Ginns	PREM	Yes	
					Panus	*stipticus*	(Bull.) Fr.	PREM		
						stipticus var. *farinaceus*	(Schumach.) Rea	PREM		
						stuppeus	(Klotzsch) Pegler & R.W. Rayner	PREM		
					Perenniporia	*ochroleuca*	(Berk.) Ryvarden	PREM		
					Picipes	*badius*	(Pers.) Zmitr. & Kovalenko		Yes	
					Phellinus	*badius*	(Cooke) G. Cunn.	PREM	Yes	
						robustus	(P. Karst.) Bourdot & Galzin	PREM	Yes	
					Polyporus	*adustus*	(Willd.) Fr.	PREM		
						affinis	Blume & T. Nees	PREM		
						anebus	Berk.	PREM		
						arenosobasus	Lloyd	PREM		
						australiensis	Wakef.	PREM		
						baurii	Kalchbr.	PREM		
						berkeleyi	Fr.	PREM		
						biformis	Fr.	PREM		
						chilensis	Speg.	PREM		
						cichoriaceus	Berk.	PREM		
						conchatus	C.G. Loyd	PREM		
						cotoneus	Pat. & Har.	PREM		
						cuticularis	(Bull.) Fr.	PREM		

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	*Polyporus*	*dictyopus*	Mont.	PREM	Yes	
						doidgeae	Wakef.	PREM		
						durbanensis	Van der Byl	PREM		
						durus	(Timm) Kreisel	PREM		
						favoloides	Henn.	PREM		
						flabelliformis	Klotzsch	PREM		
						flexilis	Van der Byl	PREM		
						fruticum	Berk. & M.A. Curtis	PREM		
						gilvus	(Schwein.) Fr.	PREM		
						grammocephalus	Berk.	PREM		
						heteroclitus	(Bolton) Fr.	PREM		
						immaculatus	Berk. ex Lloyd	PREM		
						isidioides	Berk,			Berkeley 1843
						mastoporus	Lév.	PREM		
						ochrolaccatus	Mont.	PREM		
						ochroleucus	Berk.	PREM		
						ochroporus	Van der Byl	PREM		
						patouillardi	Lloyd	PREM		
						picipes	Rostk.	PREM		
						pocula	(Fr.) Berk. & M.A. Curtis	PREM		
						radiatus	(Sowerby) Fr.	PREM		
						rhipidium	Berk.	PREM		
						rubidus	Berk.	PREM		
						rugulosus	Lasch	PREM		
						rusticus	C.G. Loyd	PREM		
						schweinitzii	Fr.	PREM		
						semipileatus	Peck	PREM		
						setiporus	Berk.	PREM		
						squamosus	(Huds.) Fr.	PREM		
						subradiatus	Bres.	PREM		
						telfairii	Klotzsch	PREM		
						trichiliae	Van der Byl	PREM		
						undatus	Pers.	PREM		
						varius	(Pers.) Fr.	PREM		
						vibecinus var. *antilopum*	Kalchbr.	PREM		
					Pycnoporus	*sanguineus*	(L.) Murrill	PREM	Yes	
					Trametes	*albotexta*	C.G. Loyd	PREM		
						capensis	Lloyd			Doidge 1950

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	*Trametes*	*cingulata*	Berk.		Yes	
						elegans	(Spreng.) Fr.	PREM	Yes	
						gibbosa	(Pers.) Fr.		Yes	
						griseolilacina	Van der Byl	PREM		
						hirsuta	(Wulfen) Loyd	PREM	Yes	
						keetii	Van der Byl	PREM		
						meyenii	(Klotzsch) Lloyd		Yes	
						subflava	C.G. Loyd	PREM		
						versicolor	(L.) Loyd	PREM	Yes	
			Russulales	Auriscalpiaceae	*Lentinellus*	*omphalodes* var. *africanus*	A. Pearson		Yes	
				Hericiaceae	*Dentipellicula*	*austroafricana*	Jia J. Chen, L.L. Shen & Y.C. Dai			Chen et al. 2015
					Laxitextum	*bicolor*	(Pers.) Lentz	PREM	Yes	
				Lachnocladiaceae	*Asterostroma*	*cervicolor*	(Berk. & M.A. Curtis) Massee	PREM		
					Dichostereum	*rhodosporum*	(Wakef.) Boidin & Lanq.	PREM		
					Lachnocladium	*cristatum*	Lloyd	PREM		
						zenkeri	Henn.	PREM		
				Peniophoraceae	*Peniophora*	*arenata*	P.H.B. Talbot	PREM		
						aspera	(Pers.) Sacc.	PREM		
						carnea	(Willd.) P. Karst.	PREM		
						cinerea	(Pers.) Cooke	PREM		
						filamentosa	(Berk. & M.A. Curtis) Moffatt	PREM		
						gigantea	(Fr.) Massee	PREM		
						heterocystidia	Burt	PREM		
						longispora var. *brachyspora*	P.H.B. Talbot & V.C. Green	PREM		
						lycii	Höhn. & Litsch.	PREM		
						pelliculosa	P.H.B. Talbot	PREM		
						quercina	(Pers.) Cooke	PREM		
						rimicola	(P. Karst.) Höhn. & Litsch.	PREM		
						roumeguerei	(Bres.) Bres.	PREM		
						tenuis	(Pat.) Massee	PREM		
						tristicula	(Berk. & Broome) Boidin & Lanq.	PREM		
						velutina	(DC.) Cooke	PREM		
				Russulaceae	*Lactarius*	*deliciosus*	(L.) Gray	PREM	Yes	
						hepaticus	Plowr.	PREM	Yes	
					Lactifluus	*piperatus*	(L.) Pers.	PREM		Van der Westhuizen and Eicker 1988
					Russula	*agaricina*	(Kalchbr. ex Berk.) Trappe & T.F. Elliott			Berkeley 1876
						caerulea	Fr.		Yes	

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Russulales	Russulaceae	*Russula*	*capensis*	A. Pearson		Yes	
						fallax	(Fr.) Fr.		Yes	
						sardonia	Fr.	PREM	Yes	
						sororia	(Fr.) Romell		Yes	
						xerampelina	(Schaeff.) Fr.		Yes	
				Stereaceae	*Aleurodiscus*	*acerinus* var. *longispora*	Höhn. & Litsch.,	PREM		
						disciformis	(DC.) Pat.	PREM		
						limonisporus	D.A. Reid	PREM		
						mirabilis	(Berk. & M.A. Curtis) Höhn.	PREM		
						polygonioides	(P. Karst.) Pilát	PREM		
						roseus	(Pers.) Höhn. & Litsch.	PREM		
					Stereum	*adnatum*	C.G. Loyd	PREM		
						australe	Lloyd		Yes	
						erumpens	Burt			Burt 1920
						hirsutum	(Wild.) Pers.	PREM	Yes	
						laxum	C.G. Loyd	PREM		
						ostrea	(Blume & T. Nees) Fr.		Yes	
						rimosum var. *africanum*	P.H.B. Talbot	PREM		
						subpiliatum	Berk. & M.A. Curtis	PREM		
						tomentosum	Van der Byl	PREM		
						turgidum	C.G. Loyd	PREM		
			Thelephorales	Thelephoraceae	*Hypochnus*	*eylesii*	Van der Byl	PREM		
						michelianus	Caldesi	PREM		
					Thelephora	*penicillata*	C.G. Loyd	PREM		
						terrestris	Ehrh.		Yes	
		Dacrymycetes	Dacrymycetales	Dacrymycetaceae	*Arrhytidia*	*involuta*	(Schwein.) Coker	PREM		
					Calocera	*cornea*	(Batsch) Fr.	PREM	Yes	
						viscosa	(Pers.) Fr.	PREM		
					Dacrymyces	*deliquescens*	(Bull.) Duby	PREM		
						palmatus	(Schwein.) Burt	PREM		
					Dacryopinax	*elegans*	(Berk. & M.A. Curtis) G.W. Martin	PREM		
						spathularia	(Schwein.) G.W. Martin	PREM	Yes	
					Femsjonia	*natalensis*	Cooke	PREM		
		Incertae sedis	Incertae sedis	Incertae sedis	*Naematoloma*	*capnoides*	(Fr.) P. Karst.	PREM		
						fasciculare	(Huds.) P. Karst.	PREM		
		Tremellomycetes	Tremellales	Tremellaceae	*Tremella*	*fuciformis*	Berk.		Yes	
						mesenterica	(Schaeff.) Retz.		Yes	

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Tremellomycetes	Tremellales	Tremellaceae	*Tremella*	*micropera*	Kalchbr. & Cooke			Kalchbrenner and Cooke 1880
						microspora	Lloyd			Lloyd 1920
					Phaeotremella	*foliaceae*	(Pers.) Wedin, J.C. Zamora & Millanes		Yes	
				Sirobasidiaceae	*Sirobasidium*	*magnum*	Boedijn 1934		Yes	
	Mucoromycota	Mucoromycetes	Mucorales	Pilobolacecae	*Pilobolus*	*crystallinus*	(F.H. Wigg.) Tode		Yes	
Amoebozoa	Mycetozoa	Myxomycetes	Echinosteliales	Echinosteliaceae	*Echinostelium*	*coelocephalum*	T.E.Brooks & H.W.Keller			See text
			Liceales	Cribrariaceae	*Cribraria*	*argillacea*	(Pers. ex J.F.Gmel.) Pers.			See text
						cancellata	(Batsch) Nann.-Bremek.			See text
						intricata	Schrad.			See text
						tenella	Schrad.			See text
				Dictydiaethaliaceae	*Dictydiaethalium*	*plumbeum*	(Schumach.) Rostaf.			See text
				Liceaceae	*Licea*	*biforis*	Morgan			See text
						kleistobolus	G.W.Martin			See text
						pedicellata	(H.C.Gilbert) H.C.Gilbert			See text
				Tubiferaceae	*Lycogala*	*epidendrum*	(L.) Fr.			See text
						flavofuscum	(Ehrenb.) Rostaf.			See text
					Reticularia	*lycoperdon*	Bull.			See text
					Tubifera	*ferruginosa*	(Batsch) J.F. Gmel.			See text
			Physarales	Didymiaceae	*Diachea*	*leucopodia*	(Bull.) Rostaf.			See text
					Diderma	*subdictyospermum*	(Rostaf.) G.Lister			See text
						effusum	(Schwein.) Morgan			See text
						hemisphaericum	(Bull.) Hornem.			See text
						saundersii	(Berk. & Broome ex Massee) Lado			See text
					Didymium	*melanospermum*	(Pers.) T.Macbr.			See text
						difforme	(Pers.) Gray			See text
						eximium	Peck			See text
						iridis	(Ditmar) Fr.			See text
						nigripes	(Link) Fr.			See text
						squamulosum	(Alb. & Schwein.) Fr. & Palmquist			See text
					Mucilago	*crustacea*	F.H.Wigg.			See text
				Physaraceae	*Badhamia*	*foliicola*	Lister			See text
						macrocarpa	(Ces.) Rostaf.			See text
						affinis	Rostaf.			See text
						nitens	Berk.			See text
						spinispora	(Eliasson & N.Lundq.) H.W.Keller & Schokn.			See text
						utricularis	(Bull.) Berk.			See text
					Badhamiopsis	*ainoae*	(Yamash.) T.E.Brooks & H.W.Keller			See text

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Amoebozoa	Mycetozoa	Myxomycetes	Physarales	Physaraceae	*Craterium*	*leucocephalum*	(Pers. ex J.F.Gmel.) Ditmar			See text
						aureum	(Schumach.) Rostaf.			See text
						dictyosporum	(Rostaf.) H.Neubert, Nowotny & K.Baumann			See text
						minutum	(Leers) Fr.			See text
					Fuligo	*cinerea*	(Schwein.) Morgan			See text
						muscorum	Alb & Schwein			See text
						septica	(L.) F.H.Wigg.			See text
					Leocarpus	*fragilis*	(Dicks.) Rostaf.			See text
					Physarella	*oblonga*	(Berk. & M.A.Curtis) Morgan			See text
					Physarum	*cinereum*	(Batsch) Pers.			See text
						melleum	(Berk. & Broome) Massee			See text
						pezizoideum	(Jungh.) Pavill. & Lagarde			See text
						album	(Bull.) Chevall.		Yes	See text
						auriscalpium	Cooke			See text
						bitectum	G.Lister			See text
						bivalve	Pers.			See text
						bogoriense	Racib.			See text
						citrinum	Schumach.			See text
						compressum	Alb. & Schwein.			See text
						confertum	T.Macbr.			See text
						didermoides	(Pers.) Rostaf.			See text
						digitatum	G.Lister & Farquharson		Yes	See text
						flavicomum	Berk.			See text
						gyrosum	Rostaf.			See text
						javanicum	Racib.			See text
						leucophaeum	Fr.			See text
						leucopus	Link			See text
						mutabile	(Rostaf.) G.Lister			See text
						notabile	T.Macbr.			See text
						nucleatum	Rex			See text
						penetrale	Rex			See text
						pusillum	(Berk. & M.A.Curtis) G.Lister			See text
						roseum	Berk. & Broome			See text
						stellatum	(Massee) G.W.Martin			See text
						tenerum	Rex			See text
						vernum	Sommerf.			See text
						viride	(Bull.) Pers.			See text
					Willkommlangea	*reticulata*	(Alb. & Schwein.) Kuntze			See text

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fungarium	Field guides	Previous publications (if not in field guides)
Amoebozoa	Mycetozoa	Myxomycetes	Stemonitales	Stemonitidaceae	*Amaurochaete*	*atra*	(Alb. & Schwein.) Rostaf.			See text
					Comatricha	*alta*	Preuss			See text
						nigra	(Pers. ex J.F.Gmel.) J.Schröt.			See text
					Enerthenema	*papillatum*	(Pers.) Rostaf.			See text
					Lamproderma	*arcyrioides*	(Sommerf.) Rostaf.			See text
						scintillans	(Berk. & Broome) Morgan			See text
					Stemonaria	*irregularis*	(Rex) Nann.-Bremek., R.Sharma & Y.Yamam.			See text
						longa	(Peck) Nann.-Bremek.			See text
					Stemonitis	*splendens*	Rostaf.			See text
						axifera	(Bull.) T.Macbr.			See text
						fusca	Roth			See text
						herbatica	Peck			See text
						pallida	Wingate			See text
					Stemonitopsis	*typhina*	(F.H.Wigg.) Nann.-Bremek.			See text
			Trichiales	Dianemaceae	*Calomyxa*	*metallica*	(Berk.) Nieuwl.			See text
				Trichiaceae	*Arcyria*	*cinerea*	(Bull.) Pers.			See text
						denudata	(L.) Wettst.			See text
						incarnata	(Pers. ex J.F.Gmel.) Pers.			See text
						insignis	Kalchbr. & Cooke			See text
						minuta	Buchet			See text
						obvelata	(Oeder) Onsberg			See text
						oerstedii	Rostaf.			See text
						pomiformis	(Leers) Rostaf.			See text
					Hemitrichia	*clavata*	(Pers.) Rostaf.			See text
						serpula	(Scop.) Rostaf. ex Lister			See text
					Metatrichia	*vesparia*	(Batsch) Nann.-Bremek. ex G.W.Martin & Alexop.			See text
					Oligonema	*schweinitzii*	(Berk.) G.W.Martin			See text
					Perichaena	*depressa*	Lib.			See text
						corticalis	(Batsch) Rostaf.			See text
					Trichia	*persimilis*	P.Karst.			See text
						affinis	de Bary			See text
						botrytis	(J.F.Gmel.) Pers.			See text
						favoginea	(Batsch) Pers.			See text
						scabra	Rostaf.			See text
						varia	(Pers. ex J.F.Gmel.) Pers.			See text
		Protostelids	Protosteliales	Ceratiomyxaceae	*Ceratiomyxa*	*fruticulosa*	(O.F.Müll.) T.Macbr.			See text
					Ceratium	*sphaeroideum*	Kalchbr. & Cooke			Kalchbrenner and Cooke 1880

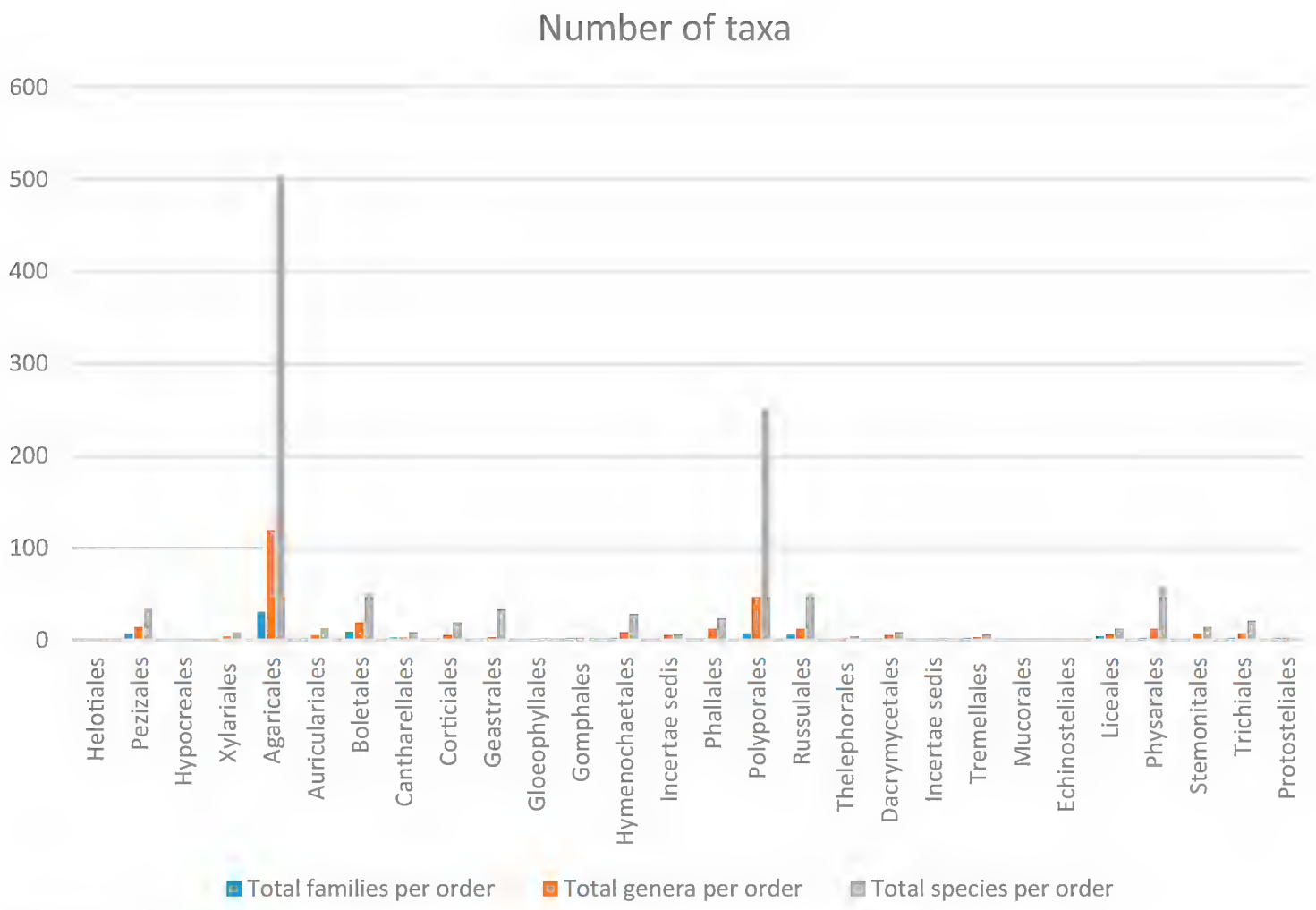

Figure 1. Bargraph indicating proportions of families, genera and species per order.

as myxomycetes, is represented by only two species, *Ceratiomyxa fruticulosa* (O.F. Müll.) T. Macbr and *Ceratium sphaeroideum* Kalchbr. & Cooke (Kalchbrenner and Cooke 1880; Spiegel et al. 2017).

As expected, cosmopolitan and widespread species in Africa have been reported from South Africa, such as *Arcyria cinerea* (Bull.) Pers., *Arcyria denudata* (L.) Wettst., *Stemonitis fusca* Roth, *Physarum pusillum* (Berk. & M.A. Curtis) G. Lister, *P. compressum* Alb. & Schwein., *Lycogala epidendrum* (L.) Fr., *Diderma hemisphaericum* (Bull.) Hornem., *Stemonitis splendens* Rostaf., *Didymium squamulosum* (Alb. & Schwein.) Fr. & Palmquist, *Fuligo septic* (L.) F.H. Wigg., *Hemitrichia serpula* (Scop.) Rostaf. ex Lister, *Metatrichia vesparia* (Batsch) Nann.-Bremek. ex G.W. Martin & Alexop. and *Pericheana depressa* Lib (http://www.discoverlife.org/). The number of species reported from South Africa also compares favorably with the approximately 375 myxomycete species reported from the African continent and its territories (Ndiritu and de Haan 2017). However, this is fewer than the 431 species reported from 30 countries in the Neotropics and 880 species from across the world (Lado 2005–2018).

Myxomycetes are not represented in PREM. This large deficit is most likely because slime molds have a different biology from fungi. This also reflects the limited focus that the broad fungal diversity has received in South Africa, with a much larger focus on disease causing fungi of plants, animals and humans. Even within mycological circles, slime molds have received very limited attention and there has been no expertise in studying them.

Discussion

The checklist gives an overview of the visible mycobiota of South Africa from different sources of data. The checklist presented in this publication is the first for South African macrofungi and is as comprehensive as can be of currently collected and published macrofungi. The list will serve as a foundation to add names to a future real-time, developing, online list that should eventually become as complete as possible, similar to what is available for other organisms in South Africa such as plants and animals. Information on South African macrofungi is still scanty and a great degree of inventorying is needed to document existing species, as well as new species, in order to produce more detailed checklists of macrofungi of South Africa. It will also need future refinement and additions are already forthcoming, including ecological and distribution information.

South Africa has a long history of mycology. Based on what was published in the available field guides on macrofungi for South Africa (Stephens and Kidd 1953a, b; Levin et al. 1985; Van der Westhuizen and Eicker 1994; Branch 2001; Gryzenhout 2010; Goldman and Gryzenhout 2019), the most common macrofungal species reported across all the years belonged to several genera, including *Agaricus* L., *Amanita* Pers., *Boletus* L., *Coprinus* Pers., *Lactarius* Pers., *Laetiporus* Murr., *Macrolepiota* Singer, *Russula* Pers., and *Suillus* Gray. There exists a level of overlap of species mentioned in the different field guides, but each field guide also included unique species while not one of them is complete or comprehensive due to publishing constraints. However, even the guides combined do not yet encompass the diversity of known and unknown species present in South Africa.

A number of scientific publications exist that listed macrofungi for South Africa in general. Doidge (1950) summarized the content of her book in tabular form, listing 835 Ascomycete species, 1704 Basidiomycetes species (36%) and several species of myxomycetes. The phytopathogenic component of these species, and species discovered since then, were summarized by Crous et al. (2000). Van der Westhuizen and Eicker (1988) listed the various fungi known at that stage in the Pretoria area (Gauteng Province), while Gorter and Eicker (1988) provided Afrikaans names for a list of fungi. Vellinga et al. (2009) and Wood (2017) listed a number of fungi, including macrofungi that they considered to be introduced into South Africa.

Eicker and Baxter (1999) presented a good overview of research done on basidiomycetes from 1977 to 1999. Their publication provides references to studies on the genera and species of *Phaeolus* (Pat.) Pat., *Pisolithus* Alb. & Schwein., *Termitomyces* R. Heim, *Amanita* Pers., *Chlorophyllum* Massee, *Clathrus* P. Micheli ex L., *Hymenagaricus* Heinem., *Lepiota* (Pers.) Gray, *Macrolepiota* Singer, *Leucoagaricus* Locq. ex Singer, *Leucocoprinus* Pat., *Montagnea* Fr. and *Hymenochaete* Lév. A monograph on resupinate and stereoid *Hymenomycetes*, a revision of *Hymenochaete* Lév. (*Hymenochaetaceae*) (Job, 1987) and a series of papers dealing with *Stereum* Pers., *Lopharia* Kalchbr. & MacOwan, *Cymatoderma* Jungh. and the *Thelephoraceae* (Gorter, 1979). Paul A. van der Byl was known for his pioneering work on polypores or bracket fungi while Averil M. Bottomley documented South African Gasteromycetes (Bottomley, 1948). New species of Gasteromycetes were described, such as *Bovista acocksii* De Villiers, Eicker & Van der Westhuizen (De Villiers

et al. 1989), but limited information is still available for the Geasteraceae of South Africa (Coetzee and Van Wyk 2003). A new basidiomycetous species, namely *Pseudolagarobasidium acaciicola* Ginns, was considered to be a potential biocontrol against the invasive weed *Acacia cyclops* (Wood and Ginns 2006; Kotzé et al. 2015).

A number of recent studies on macrofungi included DNA phylogenetic data. For example, studies during the early part of the last century reported *Armillaria mellea* (Vahl: Fr.) P. Kumm. in South Africa (Pole 1933; Kotzé 1935; Bottomley 1937), that was largely associated with an expanding plantation forestry industry and the pathogenic nature of the fungus. However, recent morphologic and DNA-based studies showed that the fungus killing pine trees in South Africa is *A. fuscipes* Petch (Coetzee et al. 2000), while the Northern Hemisphere species *A. mellea* and *A. gallica* Marxm. & Romagn. are restricted to the Western Cape on non-native trees and dying *Protea* plants in the Kirstenbosch Botanical Gardens, respectively (Coetzee et al. 2000, 2003). However, recent studies alarmingly showed that *A. mellea* is spreading to native fynbos areas and is able to infect a number of native plants in natural ecosystems of the Western Cape (Coetzee et al. 2018).

A number of new *Ganoderma* species were discovered through the use of DNA sequences. These include *Ganoderma austroafricanum* Coetzee, M.J. Wingf., Marinc., Blanchette on *Jacaranda mimosifolia*, which was assumed to be the main causal agent of root rot on these trees (Crous et al. 2014), *G. enigmaticum* M.P.A. Coetzee, Marinc., M.J. Wingf. and *G. destructans* M.P.A. Coetzee, Marinc., M.J. Wingf. (Coetzee et al. 2015). *Ganoderma destructans*, another novel species *G. dunense* Tchotet, Rachjenb. & Jol. Roux, an undescribed novel species of *Ganoderma*, and *Pseudolagaricobasidion acaciicola* were also found associated with dying plants of the invasive weed *Acacia cyclops* in the Eastern and Western Cape Province (Tchoumi et al. 2018). A survey (Tchotet et al. 2017) on wood-rotting basidiomycetes from various declining native tree species in the Garden Route National Park (Western Cape) also showed *Ganoderma* to be the most prominent associated group, together with *Innonotus*, *Fomitoparia* and *Wrightoporia* to a lesser degree. The study also defined other operational taxonomic units (OTUs) with sequence data from such symptoms, and assigned tentative identities based on closest sequence hits on the UNITE database. In Tchotet et al. (2019) the OTU's belonging to *Ganoderma* was further characterized based on multigene phylogenies and brought up the number of *Ganoderma* species present in South Africa to 13. From the study another two new species, namely *G. eickeri* Tchotet, M.P.A. Coetzee, Rachjenb. & Jol. Roux and *G. knysnamense* Tchotet, M.P.A. Coetzee, Rachjenb. & Jol. Roux, were described, and the two phylogenetetic groups named as *G.* cf. *resinaceum* Boud. and *G.* cf. *cupreum* (Sacc.) Bres. could indicate the first reports of these species in South Africa. *Ganoderma* cf. *cupreum* has not been previously collected or observed (Table 1), while specimens of *G. resinaceum* are present in PREM and the species has been recorded previously (Table 1).

A new *Fomitiporia* species, *F. capensis* M. Fisch., M. Cloete, L. Mostert, F. Halleen, was described from South Africa based on fruit body morphology and combined internal transcribed spacer (ITS) and large-subunit ribosomal RNA gene (LSU) sequence comparisons (Cloete et al. 2014). The new species *Phellinus resupinatus* M. Fisch., M.

Cloete, L. Mostert, F. Halleen, was found to be associated with the disease esca and white rot on grape vines (Cloete et al. 2016). Two new *Chlorophyllum* species, namely *C. palaeotropicum* Z.W. Ge & A. Jacobs and *C. africanum* Z.W. Ge & A. Jacobs, were described based on morphology and DNA sequences of the ITS, partial LSU, the second largest subunit of RNA polymerase II (*rpb2*) and translation elongation factor 1-α (*tef*1) sequences (Ge et al. 2018). The jacaranda stinkhorn (*Itajahya galericulata* Möller) in Pretoria was also typed phylogenetically (Marincowitz et al. 2015).

Fungi associated with termite mounds formed the focus of a number of studies. *Termitomyces* spp. associated with some termite species are arguably some of the best known fungi among non-specialists in South Africa, as they are rather obvious, numerous, interesting and a well-loved delicacy. A number of species have been described from South Africa (Botha and Eicker 1991a, b; Eicker and Baxter 1999; Fine Licht et al. 2005), but not all species of *Termitomyces* associated with the 42 South African fungus growing termite species have been characterized. Neither have the *Xylaria* Hill ex Schrank species (Ascomycetes, Xylariaceae) associated with termite nests been fully characterized. However, *X. fioriana* Sacc. was identified and described in South Africa (Saccardo 1891). Another well-known associate with termite mounds, *Podaxis pistillaris* (L.) Fr., was also found to consist of more than one phylogenetic lineage, including several collections from Africa, that could be supported morphologically and ecologically (Conlon et al. 2016, 2019).

A total of 105 myxomycete species (Table 1) are known from South Africa (Ndiritu and De Haan 2017). The first record of myxomycetes of South African myxomycetes was published in 1917 (Duthie 1917a). Additional published surveys included Duthie (1917b) and Doidge (1950). One would expect more species in South Africa especially when considering the presence of diverse habitats across such a large surface area. Clearly, this is a vastly understudied and underexploited group in South Africa supported by no local expertise.

A number of species presented in past field guides (Table 1), which should present studied fungi, do not have specimens lodged in PREM (15%, excluding slime molds) and are thus not present in our National Collection. For instance, none of the important termite-cultivated *Termitomyces* species, including the iconic *Termitomyces umkowaan* (Cooke & Massee) D.A. Reid that is readily consumed by many, has fungorium specimens in PREM. These even include commonly occurring species such as *Schizophyllum commune* Fr. that are widespread throughout South Africa and that can even be observed in dry conditions. Only 14% of fungi (excluding slime molds) published in previous field guides are also lodged in PREM (Table 1).

Conversely, a very large proportion of species in PREM (77% excluding slime molds) have not been included in popular field guides and are thus largely unknown to citizens interested in these fungi, and even professional mycologists. These pieces of forgotten knowledge are crucial to complete the current and future status of our fungal biodiversity, and represent a glimpse of the diversity in earlier times. For instance, 11 species of *Pholiota* (Fr.) P. Kumm. are lodged in PREM but did not feature in previous field guides. A twelfth species, *P. squarrosa* (Oeder) P. Kumm., is the only species currently listed in field guides but specimens for this species are not lodged in PREM

(Table 1). Many of these collections representing genera or closely related groups, however, represent invaluable research opportunities to update the status of species in South Africa in the form of monographs and contemporary phylogenetic studies, to add new samples and possibly describe novel species.

Although great care was taken to eliminate possible synonyms present in the list, and to provide the most recent names for species listed under previous names (Index Fungorum 2019; Crous et al. 2004), a number of synonyms and previous names most likely are still present. It is impossible to continuously crosscheck the list, but errors can be rectified with future revisions for certain groups in the list that aim to eliminate these problems. It is also important to remember when using the list for research, that previous synonyms (including original published or collected names as listed in the contemporary taxonomic databases Index Fungorum and Mycobank) must also be searched.

A number of names listed in Doidge (1950) are not yet present in the list. Since a large proportion of these listed names have new combinations, it was uncertain whether the original author/-s observed them in the sense of what they are called today, or to what genus or species they were attributed to in the past. Some of these names also proved to be non-existent. Due to the importance of Doidge (1950) and the large number of names it contains, it was thus decided to rather treat the names included in Doidge (1950) separately where they can be more carefully linked to existing names and collections and their validity verified, before inclusion in the current checklist published here.

We emphasize that data obtained from publications and books were based on names only at this stage, because although published, some names were not supported by voucher collections that can be used to validate the accuracy of the included names. Even lists obtained from the fungorium, although tied to specimens, may represent misidentifications, previous synonyms or specimens not yet updated to recent systematic schemes for the particular taxon. Furthermore, a large number of macrofungi are still unnamed in South Africa, remain undiscovered, or new reports continue to be generated where discovered fungi could be identified. However, the working list presented here should form a solid foundation to revise names and add more names in future, especially if tied to certain targets or priorities matched to existing expertise and collaborations.

Having a fungal name list is invaluable. It is the first step towards compiling an atlas for macrofungi, similar to what exists for other organisms in South Africa (for example, Harrison et al. 1997). Such an atlas can also include distribution, ecological and biological data useful for diverse end users in governmental institutions, and those linked to conservation, ecology, academia and citizen science (Gryzenhout 2015). Additional products would be used to compile, for the first time, a red-list of macrofungi based on International Union for the Conservation of Nature (IUCN) criteria, and guidelines to protect them based on their biology. It will aid to identify indicator species to monitor ecological integrity and change. The residency status of macrofungi can be defined better, and species that are truly endemic, naturalized, introduced or

invasive can be defined properly within each group. The need for this is already evident where fungi have been previously listed (Vellinga et al. 2009; Wood 2017) but there was no national list for comparison. In fact, one species listed in Vellinga et al. (2009), *Inocybe curvipes* P. Karst., is not present in previous publications or in PREM (Table 1). The checklist information can be used in education for the sustainable and safe use of fungal natural resources, to produce conservation awareness and regulation to protect naturally harvested species and habitats from over-harvesting (Gryzenhout et al. 2010, 2012). Lastly, the lists will be instrumental to do gap assessments from the compiled data to help identify research needs in future, for example where to focus surveys and collections, revisions, and where the greatest gaps for species descriptions exist. A list will also enable citizen scientist collaboration and participation and make the study of fungi more transparent (Gryzenhout 2015).

Human capacity should be developed in the area of mycology and biodiversity conservation. The species found in each region of South Africa is still unknown and there have not been any recent monographic works. Furthermore, a great need exists to continue revising the list, to ensure that more representatives of species are added and taxonomic revisions are undertaken and included in the list. The list should also be enabled to continue and long-term plans should be developed to ensure its sustainability.

The list presented is only based on species and specimens that could be named. A great deal of unknown taxa of macrofungi still exist. In fact, approximately 200 "unknown" macrofungal species of the fungorium records were left out from the list. Furthermore, approximately half of the records lodged in MushroomMap (http://adu.org.za/) represent fungi that could not be identified, whereas a great number of equally unknown fungi is posted on the Mushrooms for South Africa Facebook page (https://www.facebook.com/groups/MushroomsSouthernAfrica/), or communicated by citizen scientists (Gryzenhout 2015). This great deficit or inability to name numerous South African macrofungi is indicative of the great diversity that we have, the large proportion that are still undiscovered, unstudied, and hence under-utilized, and the paucity of human capacity to do this (South African Fungal Diversity Network 2013). Without active description and characterization, these fungi will remain in obscurity.

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